

CONTAINS NO CBI



Form Approved  
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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
Comprehensive Assessment Information Rule  
REPORTING FORM

63 JUL -7 PM 2:20  
OFFICE OF TOXIC SUBSTANCES  
CONTROL

When completed, send this form to:

Document Processing Center  
Office of Toxic Substances, TS-790  
U.S. Environmental Protection Agency  
401 M Street, SW  
Washington, DC 20460  
Attention: CAIR Reporting Office

For Agency Use Only:

Date of Receipt: \_\_\_\_\_

Document  
Control Number: \_\_\_\_\_

Docket Number: \_\_\_\_\_

SECTION 1 GENERAL MANUFACTURER, IMPORTER, AND PROCESSOR INFORMATION

PART A GENERAL REPORTING INFORMATION

1.01 This Comprehensive Assessment Information Rule (CAIR) Reporting Form has been completed in response to the Federal Register Notice of..... 12 22 88  
CBI mo. day year

☐ a. If a Chemical Abstracts Service Number (CAS No.) is provided in the Federal Register, list the CAS No. .... 264711]-62]-5

b. If a chemical substance CAS No. is not provided in the Federal Register, list either (i) the chemical name, (ii) the mixture name, or (iii) the trade name of the chemical substance as provided in the Federal Register.

(i) Chemical name as listed in the rule ..... Benzene 1,3 Diisocyanatomethyl  
(Toluene Diisocyanate)

(ii) Name of mixture as listed in the rule ....

(iii) Trade name as listed in the rule .....

c. If a chemical category is provided in the Federal Register, report the name of the category as listed in the rule, the chemical substance CAS No. you are reporting on which falls under the listed category, and the chemical name of the substance you are reporting on which falls under the listed category.

Name of category as listed in the rule .....

CAS No. of chemical substance .....             ]-    ]-  

Name of chemical substance .....

1.02 Identify your reporting status under CAIR by circling the appropriate response(s).

CBI Manufacturer ..... 1

☐ Importer ..... 2

Processor ..... 3

X/P manufacturer reporting for customer who is a processor ..... 4

X/P processor reporting for customer who is a processor ..... 5

☐ Mark (X) this box if you attach a continuation sheet.

1.03 Does the substance you are reporting on have an "x/p" designation associated with it in the above-listed Federal Register Notice?

CBI  
☐ Yes ..... ☒ Go to question 1.04  
☐ No ..... ☐ Go to question 1.05

1.04 a. Do you manufacture, import, or process the listed substance and distribute it under a trade name(s) different than that listed in the Federal Register Notice? Circle the appropriate response.

CBI  
☐ Yes ..... 1  
☐ No ..... **2**

b. Check the appropriate box below:

☐ You have chosen to notify your customers of their reporting obligations

Provide the trade name(s) ....

☐ You have chosen to report for your customers

☐ You have submitted the trade name(s) to EPA one day after the effective date of the rule in the Federal Register Notice under which you are reporting.

1.05 If you buy a trade name product and are reporting because you were notified of your reporting requirements by your trade name supplier, provide that trade name.

CBI  
Trade name ..... Lupranate T80-Type 1  
☐ Is the trade name product a mixture? Circle the appropriate response.  
Yes ..... 1  
No ..... 2

1.06 Certification -- The person who is responsible for the completion of this form must sign the certification statement below:

CBI  
☐ "I hereby certify that, to the best of my knowledge and belief, all information entered on this form is complete and accurate."

Otis Burge

NAME

*Otis Burge*  
SIGNATURE

June 28, 1989  
DATE SIGNED

Manager, Industrial Relations 313

TITLE

893 - 3000

TELEPHONE NO.

☐ Mark (X) this box if you attach a continuation sheet.

- 1.07 Exemptions From Reporting -- If you have provided EPA or another Federal agency with the required information on a CAIR Reporting Form for the listed substance within the past 3 years, and this information is current, accurate, and complete for the time period specified in the rule, then sign the certification below. You CBI ☐ are required to complete section 1 of this CAIR form and provide any information now required but not previously submitted. Provide a copy of any previous submissions along with your Section 1 submission.

"I hereby certify that, to the best of my knowledge and belief, all required information which I have not included in this CAIR Reporting Form has been submitted to EPA within the past 3 years and is current, accurate, and complete for the time period specified in the rule."

N/A	_____	_____	_____
	NAME	SIGNATURE	DATE SIGNED
_____	( )	_____	_____
TITLE		TELEPHONE NO.	DATE OF PREVIOUS SUBMISSION

- 1.08 CBI Certification -- If you have asserted any CBI claims in this report you must certify that the following statements truthfully and accurately apply to all of those confidentiality claims which you have asserted.

CBI ☐ "My company has taken measures to protect the confidentiality of the information, and it will continue to take these measures; the information is not, and has not been, reasonably ascertainable by other persons (other than government bodies) by using legitimate means (other than discovery based on a showing of special need in a judicial or quasi-judicial proceeding) without my company's consent; the information is not publicly available elsewhere; and disclosure of the information would cause substantial harm to my company's competitive position."

N/A	_____	_____	_____
	NAME	SIGNATURE	DATE SIGNED
_____	( )	_____	_____
TITLE		TELEPHONE NO.	

☐ Mark (X) this box if you attach a continuation sheet.

## 1.09 Facility Identification

Dun & Bradstreet Number .....[0]4]-[9]2]8]-[2]6]7]6]

EPA ID Number .....[M]I]D]0]0]4]9]6]8] 8 6 3

Employer ID Number .....[1]3]-]3]3]8]6]7] 7 6

Primary Standard Industrial Classification (SIC) Code .....[3]7]1]4]

Other SIC Code .....[ ]][ ]][ ]]

Other SIC Code .....[ ]][ ]][ ]]

Dun & Bradstreet Number .....[1]7-[5]5[9]-[2]476]

Employer ID Number .....[1]3-[3]3[8]6[7]7 6

6

1.11 Parent Company Identification N/A

```
CBI Name [ ][ ][ ][ ][ ][ ][ ][ ][ ][ ][ ][ ][ ][ ][ ][ ][ ][ ][ ][ ][ ][ ][ ][ ][ ][ ][ ][ ]  
[ ][ ] Address [ ][ ][ ][ ][ ][ ][ ][ ][ ][ ][ ][ ][ ][ ][ ][ ][ ][ ][ ][ ][ ][ ][ ][ ][ ][ ][ ][ ]  
Street  
[ ][ ][ ][ ][ ][ ][ ][ ][ ][ ][ ][ ][ ][ ][ ][ ][ ][ ][ ][ ][ ][ ][ ][ ][ ][ ][ ][ ]  
City  
[ ][ ] [ ][ ][ ][ ][ ][ ]--[ ][ ][ ][ ][ ]  
State Zip  
  
Dun & Bradstreet Number .....[ ][ ][ ]-[ ][ ][ ][ ]-[ ][ ][ ][ ]
```

## 1.12 Technical Contact

CBI    Name   [L][E][O][N][A][R][D][J][K][U][L][I][K]                      [ ]  
[ ]   Title   [S][E][N][I][O][R][E][N][G][I][N][E][E][R]                      [ ]  
Address   [4][6][0][0][N][A][N][C][Y]                      [ ]  
   Street  
   [D][E][T][R][O][I][T]                      [ ]  
   City  
   [M][I]                      [4][8][2][I][2]--([ ][ ][ ])                      [ ]  
   State                      Zip  
Telephone Number ..... [3][1][3]-[8][9][3]-[3][0][0][0]

1.13 This reporting year is from ..... 07 87 to 06 88  
Mo. Year Mo. Year

☐ Mark (X) this box if you attach a continuation sheet.

1.14 Facility Acquired -- If you purchased this facility during the reporting year, provide the following information about the seller:

CBI    Name of Seller [ ]

[illegible]

Street

N/A

City

[ ] [ ]      [ ] [ ] [ ] [ ] [ ] [ ] -- [ ] [ ] [ ] [ ]  
State                      Zip

State

Zip

Employer ID Number .....( ) ( ) ( ) ( ) ( ) ( ) ( ) ( )

Date of Sale ..... [ ] [ ] [ ] [ ] [ ] [ ]  
Mo. Day Year

Mo.

Day

Year

[illegible]

Telephone Number ..... ( ) ( ) - ( ) ( ) ( ) - ( ) ( ) ( ) ( )

1.15 Facility Sold -- If you sold this facility during the reporting year, provide the following information about the buyer:

CBI    Name of Buyer    [ ]

[illegible]

Street

N/A

City

     --

State                          Zip

State

Zip

Employer ID Number .....( ) ( ) ( ) ( ) ( ) ( ) ( ) ( )

Date of Purchase ..... [ ] [ ] [ ] [ ] [ ] [ ]  
Mo. Day Year

Mo.

Da v

Year

[illegible]

Telephone Number ..... ( ) ( ) ( ) - ( ) ( ) ( ) - ( ) ( ) ( ) ( )

☐ Mark (X) this box if you attach a continuation sheet.

1.16 For each classification listed below, state the quantity of the listed substance that was manufactured, imported, or processed at your facility during the reporting year.

CBI

☐

<u>Classification</u>	<u>Quantity (kg/yr)</u>
-----------------------	-------------------------

Manufactured .....	N/A
--------------------	-----

Imported .....	N/A
----------------	-----

Processed (include quantity repackaged) .....	485,248
---	---------

Of that quantity manufactured or imported, report that quantity:

In storage at the beginning of the reporting year .....	N/A
---	-----

For on-site use or processing .....	N/A
-------------------------------------	-----

For direct commercial distribution (including export) .....	N/A
---	-----

In storage at the end of the reporting year .....	N/A
---	-----

Of that quantity processed, report that quantity:

In storage at the beginning of the reporting year .....	32,841
---	--------

Processed as a reactant (chemical producer) .....	N/A
---	-----

Processed as a formulation component (mixture producer) .....	N/A
---	-----

Processed as an article component (article producer) .....	N/A
--	-----

Repackaged (including export) .....	N/A
-------------------------------------	-----

In storage at the end of the reporting year .....	32,841
---	--------

☐ Mark (X) this box if you attach a continuation sheet.



1.17 Mixture -- If the listed substance on which you are required to report is a mixture or a component of a mixture, provide the following information for each component chemical. (If the mixture composition is variable, report an average percentage of each component chemical for all formulations.)

[ ]

N/A

Component Name	Supplier Name	Average % Composition by Weight (specify precision, e.g., 45% ± 0.5%)
Total		100%

☐ Mark (X) this box if you attach a continuation sheet.

2.04 State the quantity of the listed substance that your facility manufactured, imported, or processed during the 3 corporate fiscal years preceding the reporting year in descending order.

CBI

☐ Year ending ..... [0]6] [8]6]  
Mo. Year

Quantity manufactured ..... N/A kg

Quantity imported ..... N/A kg

Quantity processed ..... 136,182 kg

Year ending ..... [0]6] [8]7]  
Mo. Year

Quantity manufactured ..... N/A kg

Quantity imported ..... N/A kg

Quantity processed ..... 277,058 kg

Year ending ..... [0]6] [8]8]  
Mo. Year

Quantity manufactured ..... N/A kg

Quantity imported ..... N/A kg

Quantity processed ..... 452,407 kg

2.05 Specify the manner in which you manufactured the listed substance. Circle all appropriate process types.

CBI

N/A

☐ Continuous process ..... 1

Semicontinuous process ..... 2

Batch process ..... 3

☐ Mark (X) this box if you attach a continuation sheet.

2.06 Specify the manner in which you processed the listed substance. Circle all  
CBI appropriate process types.

☐ Continuous process ..... ☒ 1  
Semicontinuous process ..... 2  
Batch process ..... 3

2.07 State your facility's name-plate capacity for manufacturing or processing the listed  
CBI substance. (If you are a batch manufacturer or batch processor, do not answer this  
question.)

☐ Manufacturing capacity ..... N/A kg/yr  
Processing capacity ..... 892,685 kg/yr

2.08 If you intend to increase or decrease the quantity of the listed substance  
CBI manufactured, imported, or processed at any time after your current corporate fiscal  
year, estimate the increase or decrease based upon the reporting year's production  
volume.

<input type="checkbox"/>	<u>Manufacturing Quantity (kg)</u>	<u>Importing Quantity (kg)</u>	<u>Processing Quantity (kg)</u>
Amount of increase	<u>N/A</u>	<u>N/A</u>	<u>0</u>
Amount of decrease	<u>N/A</u>	<u>N/A</u>	<u>0</u>

☐ Mark (X) this box if you attach a continuation sheet.

2.09 For the three largest volume manufacturing or processing process types involving the listed substance, specify the number of days you manufactured or processed the listed substance during the reporting year. Also specify the average number of hours per day each process type was operated. (If only one or two operations are involved, list those.)

CBI

☐

	<u>Days/Year</u>	<u>Average Hours/Day</u>
--	------------------	------------------------------

Process Type #1 (The process type involving the largest quantity of the listed substance.)

Manufactured .....	_____	_____
Processed .....	<u>246</u>	<u>21</u>

Process Type #2 (The process type involving the 2nd largest quantity of the listed substance.)

Manufactured .....	_____	_____
Processed .....	_____	_____

Process Type #3 (The process type involving the 3rd largest quantity of the listed substance.)

Manufactured .....	_____	_____
Processed .....	_____	_____

Response not required for TDI  
2.10 State the maximum daily inventory and average monthly inventory of the listed substance that was stored on-site during the reporting year in the form of a bulk chemical.

CBI

☐

Maximum daily inventory .....	_____	kg
Average monthly inventory .....	_____	kg

Response not required for TDI

☐ Mark (X) this box if you attach a continuation sheet.

2.11 Related Product Types -- List any byproducts, coproducts, or impurities present with the listed substance in concentrations greater than 0.1 percent as it is manufactured, imported, or processed. The source of byproducts, coproducts, or impurities means the source from which the byproducts, coproducts, or impurities are made or introduced into the product (e.g., carryover from raw material, reaction product, etc.).

CBI

☐

<u>CAS No.</u>	<u>Chemical Name</u>	<u>Byproduct, Coproduct or Impurity<sup>1</sup></u>	<u>Concentration (%) (specify <math>\pm</math> % precision)</u>	<u>Source of By-products, Coproducts, or Impurities</u>
N/A				

<sup>1</sup>Use the following codes to designate byproduct, coproduct, or impurity:

B = Byproduct  
C = Coproduct  
I = Impurity

☐ Mark (X) this box if you attach a continuation sheet.

2.12 Existing Product Types -- List all existing product types which you manufactured, imported, or processed using the listed substance during the reporting year. List the quantity of listed substance you use for each product type as a percentage of the total volume of listed substance used during the reporting year. Also list the quantity of listed substance used captively on-site as a percentage of the value listed under column b., and the types of end-users for each product type. (Refer to ☐ the instructions for further explanation and an example.)

CBI

☐

a.	b.	c.	d.
Product Types <sup>1</sup>	% of Quantity Manufactured, Imported, or Processed	% of Quantity Used Captively On-Site	Type of End-Users <sup>2</sup>
B	100	100	I

<sup>1</sup>Use the following codes to designate product types:

A = Solvent	L = Moldable/Castable/Rubber and additives
B = Synthetic reactant	M = Plasticizer
C = Catalyst/Initiator/Accelerator/ Sensitizer	N = Dye/Pigment/Colorant/Ink and additives
D = Inhibitor/Stabilizer/Scavenger/ Antioxidant	O = Photographic/Reprographic chemical and additives
E = Analytical reagent	P = Electrodeposition/Plating chemicals
F = Chelator/Coagulant/Sequestrant	Q = Fuel and fuel additives
G = Cleanser/Detergent/Degreaser	R = Explosive chemicals and additives
H = Lubricant/Friction modifier/Antiwear agent	S = Fragrance/Flavor chemicals
I = Surfactant/Emulsifier	T = Pollution control chemicals
J = Flame retardant	U = Functional fluids and additives
K = Coating/Binder/Adhesive and additives	V = Metal alloy and additives
	W = Rheological modifier
	X = Other (specify) <u>Urethane Foam Seats</u>

<sup>2</sup>Use the following codes to designate the type of end-users:

I = Industrial	CS = Consumer
CM = Commercial	H = Other (specify) _____

☐ Mark (X) this box if you attach a continuation sheet.

- 2.13 Expected Product Types -- Identify all product types which you expect to manufacture, import, or process using the listed substance at any time after your current corporate fiscal year. For each use, specify the quantity you expect to manufacture, import, or process for each use as a percentage of the total volume of listed substance used during the reporting year. Also list the quantity of listed substance used captively on-site as a percentage of the value listed under column b., and the types of end-users for each product type. (Refer to the instructions for further explanation and an example.)

CBI

☐

a.	b.	c.	d.
Product Types <sup>1</sup>	% of Quantity Manufactured, Imported, or Processed	% of Quantity Used Captively On-Site	Type of End-Users <sup>2</sup>
B	100	100	I

<sup>1</sup>Use the following codes to designate product types:

A = Solvent	L = Moldable/Castable/Rubber and additives
B = Synthetic reactant	M = Plasticizer
C = Catalyst/Initiator/Accelerator/ Sensitizer	N = Dye/Pigment/Colorant/Ink and additives
D = Inhibitor/Stabilizer/Scavenger/ Antioxidant	O = Photographic/Reprographic chemical and additives
E = Analytical reagent	P = Electrodeposition/Plating chemicals
F = Chelator/Coagulant/Sequestrant	Q = Fuel and fuel additives
G = Cleanser/Detergent/Degreaser	R = Explosive chemicals and additives
H = Lubricant/Friction modifier/Antiwear agent	S = Fragrance/Flavor chemicals
I = Surfactant/Emulsifier	T = Pollution control chemicals
J = Flame retardant	U = Functional fluids and additives
K = Coating/Binder/Adhesive and additives	V = Metal alloy and additives
	W = Rheological modifier
	X = Other (specify) <u>Urethane Foam Seats</u>

<sup>2</sup>Use the following codes to designate the type of end-users:

I = Industrial	CS = Consumer
CM = Commercial	H = Other (specify) _____

☐ Mark (X) this box if you attach a continuation sheet.

2.14 Final Product -- Complete the following table for each type of final product manufactured, imported, or processed at your facility that contains the listed substance other than as an impurity.

☐

a.	b.	c.	d.
Product Type <sup>1</sup>	Final Product's Physical Form <sup>2</sup>	Average % Composition of Listed Substance in Final Product	Type of End-Users <sup>3</sup>
B	N/A	28.6	I

<sup>1</sup>Use the following codes to designate product types:

A = Solvent	L = Moldable/Castable/Rubber and additives
B = Synthetic reactant	M = Plasticizer
C = Catalyst/Initiator/Accelerator/Sensitizer	N = Dye/Pigment/Colorant/Ink and additives
D = Inhibitor/Stabilizer/Scavenger/Antioxidant	O = Photographic/Reprographic chemical and additives
E = Analytical reagent	P = Electrodeposition/Plating chemicals
F = Chelator/Coagulant/Sequestrant	Q = Fuel and fuel additives
G = Cleanser/Detergent/Degreaser	R = Explosive chemicals and additives
H = Lubricant/Friction modifier/Antiwear agent	S = Fragrance/Flavor chemicals
I = Surfactant/Emulsifier	T = Pollution control chemicals
J = Flame retardant	U = Functional fluids and additives
K = Coating/Binder/Adhesive and additives	V = Metal alloy and additives
	W = Rheological modifier
	X = Other (specify) <u>Urethane Foam Seats</u>

<sup>2</sup>Use the following codes to designate the final product's physical form:

A = Gas	F2 = Crystalline solid
B = Liquid	F3 = Granules
C = Aqueous solution	F4 = Other solid
D = Paste	G = Gel
E = Slurry	H = Other (specify) _____
F1 = Powder	

<sup>3</sup>Use the following codes to designate the type of end-users:

I = Industrial	CS = Consumer
CM = Commercial	H = Other (specify) _____

☐ Mark (X) this box if you attach a continuation sheet.



2.15 Circle all applicable modes of transportation used to deliver bulk shipments of the  
CBI listed substance to off-site customers.

- ☐ Truck ..... 1  
Railcar ..... 2  
Barge, Vessel ..... 3  
N/A Pipeline ..... 4  
Plane ..... 5  
Other (specify) \_\_\_\_\_ 6

2.16 Customer Use -- Estimate the quantity of the listed substance used by your customers  
CBI or prepared by your customers during the reporting year for use under each category  
of end use listed (i-iv).

☐

Category of End Use

i. Industrial Products

Chemical or mixture ..... kg/yr

Article ..... kg/yr

ii. Commercial Products

Chemical or mixture ..... kg/yr

Article ..... kg/yr

iii. Consumer Products

Chemical or mixture ..... kg/yr

Article ..... kg/yr

iv. Other

Distribution (excluding export) ..... kg/yr

Export ..... kg/yr

Quantity of substance consumed as reactant ..... kg/yr

Unknown customer uses ..... kg/yr

☐ Mark (X) this box if you attach a continuation sheet.

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SECTION 3 PROCESSOR RAW MATERIAL IDENTIFICATION

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PART A GENERAL DATA

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- 3.01 Specify the quantity purchased and the average price paid for the listed substance for each major source of supply listed. Product trades are treated as purchases.  
CBI The average price is the market value of the product that was traded for the listed substance.

<input type="checkbox"/>	Source of Supply	Quantity (kg)	Average Price (\$/kg)
	The listed substance was manufactured on-site.	N/A	
	The listed substance was transferred from a different company site.	N/A	
	The listed substance was purchased directly from a manufacturer or importer.	452,407	1.99
	The listed substance was purchased from a distributor or repackager.	N/A	
	The listed substance was purchased from a mixture producer.	N/A	

- 3.02 Circle all applicable modes of transportation used to deliver the listed substance to your facility.

<input type="checkbox"/>	Truck .....	<input checked="" type="checkbox"/>
	Railcar .....	2
	Barge, Vessel .....	3
	Pipeline .....	4
	Plane .....	5
	Other (specify) _____	6

---

☐ Mark (X) this box if you attach a continuation sheet.

---

3.03 a. Circle all applicable containers used to transport the listed substance to your facility.  
CBI

☐

Bags ..... 1  
Boxes ..... 2  
Free standing tank cylinders ..... 3  
Tank rail cars ..... 4  
Hopper cars ..... 5  
Tank trucks ..... ☒ 6  
Hopper trucks ..... 7  
Drums ..... 8  
Pipeline ..... 9  
Other (specify) \_\_\_\_\_ 10

b. If the listed substance is transported in pressurized tank cylinders, tank rail cars, or tank trucks, state the pressure of the tanks.

Tank cylinders ..... mmHg  
Tank rail cars ..... mmHg  
Tank trucks ..... 517.56 mmHg

☐ Mark (X) this box if you attach a continuation sheet.

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PART B RAW MATERIAL IN THE FORM OF A MIXTURE

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3.04 If you obtain the listed substance in the form of a mixture, list the trade name(s) of the mixture, the name of its supplier(s) or manufacturer(s), an estimate of the average percent composition by weight of the listed substance in the mixture, and the amount of mixture processed during the reporting year.

CBI

☐

<u>Trade Name</u>	<u>Supplier or Manufacturer</u>	<u>Average % Composition by Weight (specify <math>\pm</math> % precision)</u>	<u>Amount Processed (kg/yr)</u>
Lupranate T80-Type 1	BASF Corp.	99.9 $\pm$ .1	452,407
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

---

☐ Mark (X) this box if you attach a continuation sheet.

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PART C RAW MATERIAL VOLUME

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3.05 State the quantity of the listed substance used as a raw material during the reporting year in the form of a class I chemical, class II chemical, or polymer, and the percent composition, by weight, of the listed substance.

☐

	Quantity Used (kg/yr)	% Composition by Weight of Listed Sub- stance in Raw Material (specify $\pm$ % precision)
Class I chemical	452,407	99.9%
Class II chemical		
Polymer		

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☐ Mark (X) this box if you attach a continuation sheet.

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SECTION 4 PHYSICAL/CHEMICAL PROPERTIES

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General Instructions:

If you are reporting on a mixture as defined in the glossary, reply to questions in Section 4 that are inappropriate to mixtures by stating "NA -- mixture."

For questions 4.06-4.15, if you possess any hazard warning statement, label, MSDS, or other notice that addresses the information requested, you may submit a copy or reasonable facsimile in lieu of answering those questions which it addresses.

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PART A PHYSICAL/CHEMICAL DATA SUMMARY

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- 4.01 Specify the percent purity for the three major<sup>1</sup> technical grade(s) of the listed substance as it is manufactured, imported, or processed. Measure the purity of the substance in the final product form for manufacturing activities, at the time you import the substance, or at the point you begin to process the substance.

CBI

☐

	<u>Manufacture</u>	<u>Import</u>	<u>Process</u>
Technical grade #1	_____ % purity	_____ % purity	99.9 % purity
Technical grade #2	_____ % purity	_____ % purity	_____ % purity
Technical grade #3	_____ % purity	_____ % purity	_____ % purity

---

<sup>1</sup>Major = Greatest quantity of listed substance manufactured, imported or processed.

- 4.02 Submit your most recently updated Material Safety Data Sheet (MSDS) for the listed substance, and for every formulation containing the listed substance. If you possess an MSDS that you developed and an MSDS developed by a different source, submit your version. Indicate whether at least one MSDS has been submitted by circling the appropriate response.

Yes ..... 1

No ..... 2

Indicate whether the MSDS was developed by your company or by a different source.

Your company ..... 1

Another source ..... 2

☐

Mark (X) this box if you attach a continuation sheet.

4.03 Submit a copy or reasonable facsimile of any hazard information (other than an MSDS) that is provided to your customers/users regarding the listed substance or any formulation containing the listed substance. Indicate whether this information has been submitted by circling the appropriate response.

N/A

Yes ..... 1  
No ..... 2

4.04 For each activity that uses the listed substance, circle all the applicable number(s) corresponding to each physical state of the listed substance during the activity listed. Physical states for importing and processing activities are determined at the time you import or begin to process the listed substance. Physical states for manufacturing, storage, disposal and transport activities are determined using the final state of the product.

CBI

☐

Activity	Physical State				
	Solid	Slurry	Liquid	Liquified Gas	Gas
Manufacture	1	2	3	4	5
Import	1	2	3	4	5
Process	1	2	<input checked="" type="checkbox"/> 3	4	5
Store	1	2	<input checked="" type="checkbox"/> 3	4	5
Dispose	1	2	3	4	5
Transport	1	2	3	4	5

☐ Mark (X) this box if you attach a continuation sheet.

4.05 Particle Size -- If the listed substance exists in particulate form during any of the following activities, indicate for each applicable physical state the size and the percentage distribution of the listed substance by activity. Do not include particles  $\geq 10$  microns in diameter. Measure the physical state and particle sizes for importing and processing activities at the time you import or begin to process the listed substance. Measure the physical state and particle sizes for manufacturing storage, disposal and transport activities using the final state of the product.

CBI

☐

Physical State		Manufacture	Import	Process	Store	Dispose	Transport
Dust	<1 micron			N/A			
	1 to <5 microns			N/A			
	5 to <10 microns			N/A			
Powder	<1 micron			N/A			
	1 to <5 microns			N/A			
	5 to <10 microns			N/A			
Fiber	<1 micron			N/A			
	1 to <5 microns			N/A			
	5 to <10 microns			N/A			
Aerosol	<1 micron			N/A			
	1 to <5 microns			N/A			
	5 to <10 microns			N/A			

☐ Mark (X) this box if you attach a continuation sheet.



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SECTION 5 ENVIRONMENTAL FATE

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PART A RATE CONSTANTS AND TRANSFORMATION PRODUCTS

Will be supplied by raw materials  
producer

5.01 Indicate the rate constants for the following transformation processes.

a. Photolysis:

Absorption spectrum coefficient (peak) .... (1/M cm) at \_\_\_\_\_ nm

Reaction quantum yield,  $\phi$  ..... at \_\_\_\_\_ nm

Direct photolysis rate constant,  $k_p$ , at ... \_\_\_\_\_ l/hr \_\_\_\_\_ latitude

b. Oxidation constants at 25°C:

For  $^1O_2$  (singlet oxygen),  $k_{ox}$  ..... 1/M hr

For  $RO_2$  (peroxy radical),  $k_{ox}$  ..... 1/M hr

c. Five-day biochemical oxygen demand,  $BOD_5$  ... mg/l

d. Biotransformation rate constant:

For bacterial transformation in water,  $k_b$ ... 1/hr

Specify culture .....

e. Hydrolysis rate constants:

For base-promoted process,  $k_B$  ..... 1/M hr

For acid-promoted process,  $k_A$  ..... 1/M hr

For neutral process,  $k_N$  ..... 1/hr

f. Chemical reduction rate (specify conditions) \_\_\_\_\_

g. Other (such as spontaneous degradation) ... \_\_\_\_\_

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☐ Mark (X) this box if you attach a continuation sheet.

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# MATERIAL SAFETY DATA SHEET

BASF Corporation Chemicals Division  
100 Cherry Hill Road, Parsippany, New Jersey 07054, (201) 316-3000

**BASF**

HMIS: H4 F1 R1

PRODUCT NUMBER: 585621

LUPRANATE\* T80-Type 1

## SECTION I

\*Registered Trademark

TRADE NAME: LUPRANATE\* T80-Type 1

CHEMICAL NAME: Toluene Diisocyanate

SYNONYMS: TDI; Tolylene Diisocyanate

FORMULA:  $\text{CH}_3\text{C}_6\text{H}_4(\text{NCO})_2$

CHEMICAL FAMILY: Aromatic Isocyanates

MOL. WGT.: 174.16

## SECTION II - INGREDIENTS

COMPONENT	CAS NO.	%	PEL/TLV - SOURCE
LUPRANATE* T80-Type 1 Contains:		100	Not established
2,4 Toluene Diisocyanate	584-84-9	80	0.005 ppm; 0.02 ppm STEL ACGIH, OSHA (Final) 0.02 ppm C OSHA (Trans)
2,6 Toluene Diisocyanate	91-08-7	20	0.005 ppm; 0.02 ppm STEL NIOSH recommendation
SARA Title III Sect. 313: Listed. All components are in TSCA inventory.			

## SECTION III - PHYSICAL DATA

BOILING/MELTING POINT @760 mm Hg: 484°F/ N/A	pH: N/A
VAPOR PRESSURE mm Hg @20 C: 0.025	Vapor Density (Air=1): 6.0
SPECIFIC GRAVITY OR BULK DENSITY: 1.22	Freezing Point: 51.8-53.6°F
SOLUBILITY IN WATER: Water reacts	
APPEARANCE: Colorless liquid	ODOR: Pungent
	INTENSITY: Strong

## SECTION IV - FIRE AND EXPLOSION HAZARD DATA

FLASH POINT (TEST METHOD): 270°F TAG Open Cup	AUTOIGNITION TEMP: >620°F
FLAMMABILITY LIMITS IN AIR (% BY VOL)	LOWER: 0.9% UPPER: 9.5%
EXTINGUISHING MEDIUM	Use water fog, foam or CO2 extinguishing media.
SPECIAL FIREFIGHTING PROCEDURES	Personnel engaged in fighting isocyanate fires must be protected against nitrogen dioxide fumes as well as isocyanate vapors. Firefighters must wear self-contained
UNUSUAL FIRE AND EXPLOSION HAZARDS	breathing apparatus and turnout gear. Avoid water contamination in closed containers or confined areas; carbon dioxide gas is generated.

## EMERGENCY TELEPHONE NUMBER

CHEMTREC 800-424-9300

201-316-3000

THIS NUMBER IS AVAILABLE DAYS, NIGHTS, WEEKENDS, AND HOLIDAYS

PRODUCT NUMBER: 585621

LUPRANATE\* T80-Type 1

**SECTION V - HEALTH DATA****TOXICOLOGICAL TEST DATA:**

LUPRANATE\* T80-Type 1

2,4 Toluene Diisocyanate

Rat, Oral LD50  
Mouse, Inhalation LC50**RESULT:**Severe eye and skin  
irritant, sensitizer  
5.8 g/kg.  
10 ppm/4H**EFFECTS OF OVEREXPOSURE:**

The primary routes of exposure to this material are eye or skin contact, and inhalation. Contact with the liquid can cause skin and eye burns. The vapors are irritating to the eyes and respiratory tract. Overexposure may cause pulmonary edema. Pulmonary sensitization can occur in some individuals, leading to asthma-type spasms of the bronchial tubes and difficulty breathing. Anyone having a history of respiratory illness, asthmatic conditions, eye damage, or TDI sensitization should avoid any exposure to TDI. TDI was carcinogenic to rats and mice in a NTP bioassay; however, it was not carcinogenic to rats in a lifetime inhalation study. TDI is listed in the National Toxicology Program (NTP) Fourth Annual Report on Carcinogens, and the International Agency for Research (IARC) concluded that there is sufficient evidence that TDI is carcinogenic in animals.

Existing medical conditions aggravated by exposure to this material:  
Pulmonary disorders.

**FIRST AID PROCEDURES:**

Existing medical conditions aggravated by exposure to this material:  
Pulmonary disorders.

Eyes-Immediately wash eyes with running water for 15 minutes.

Get immediate medical attention.

Skin-Wash affected areas with water while removing contaminated clothing. Get immediate medical attention. Launder contaminated clothing before reuse.

Ingestion-If swallowed, DO NOT INDUCE VOMITING. Dilute with water or milk and get immediate medical attention. Never give fluids or induce vomiting if the victim is unconscious or having convulsions.

Inhalation-Move to fresh air. Aid in breathing, if necessary, and get immediate medical attention.

**SECTION VI - REACTIVITY DATA****STABILITY:**

Stable.

**CONDITIONS TO AVOID:**

Avoid temperatures &gt;40°C for extended periods of time.

**CHEMICAL INCOMPATIBILITY:**

Water, basic compounds, alcohols, acids, amines.

**HAZARDOUS DECOMPOSITION PRODUCTS:**

TDI vapors, NOx, CO and HCN.

**HAZARDOUS POLYMERIZATION:**

May occur.

Avoid contamination with moisture

**CONDITIONS TO AVOID:**

and other products that react with isocyanates.

**CORROSIVE TO METAL:**

No

**OXIDIZER:**

No

**SECTION VII - SPECIAL PROTECTION****RESPIRATORY PROTECTION:**

NIOSH/MSHA approved respiratory equipment for transfer operations or escape.  
Self-contained breathing apparatus if the P.E.L. is exceeded, or in confined areas or if a leak occurs.

**EYE PROTECTION:**

Wear fitted goggles or face shield and safety glasses.

**PROTECTIVE CLOTHING:**

Rubber gloves, coveralls, boots and rubber apron which  
must be cleaned after each use. Hardhat for head protection.

**VENTILATION:**

Use local exhaust wherever vapors are generated.

**OTHER:**

Maintain work area below P.E.L. Vented vapors should be scrubbed through carbon filters or other similarly effective medias.

PRODUCT NUMBER: 585621 LUPRANATE\* T80-Type 1

## SECTION VIII - ENVIRONMENTAL DATA

### ENVIRONMENTAL TOXICITY DATA:

Aquatic toxicity rating: TLM 96: 10 ppm - 1 ppm.

### SPILL AND LEAK PROCEDURES:

LUPRANATE\* T80 is a RCRA-regulated product. Wear protective clothing, evacuate all not involved in the cleanup. For minor spills, absorb with absorbent and containerize into open top drums. Decontaminate spill area with a mixture of 90% water, 8% concentrated ammonia and 2% detergent.

HAZARDOUS SUBSTANCE SUPERFUND: Yes RQ (lbs): 100

### WASTE DISPOSAL METHOD:

Dispose of waste in a RCRA-permitted facility.  
Incinerate or landfill in a RCRA-permitted facility.

HAZARDOUS WASTE 40CFR261: Yes

HAZARDOUS WASTE NUMBER: U 223

### CONTAINER DISPOSAL:

Containers should be neutralized with liquid decontaminant. Empty containers, containing less than 1" of residue, may be landfilled. If containers are not empty, they must be disposed as a hazardous waste in a RCRA-licensed facility.

## SECTION IX - SHIPPING DATA

D.O.T. PROPER SHIPPING NAME (49CFR172.101-102)

Toluene Diisocyanate

HAZARDOUS SUBSTANCE  
(49CFR CERCLA LIST)

Yes

REPORTABLE QUANTITY (RQ) 100 lb

D.O.T. HAZARD CLASSIFICATION (CFR172.101-102)

PRIMARY

Poison B

SECONDARY

D.O.T. LABELS REQUIRED (49CFR172.101-102)

Poison

D.O.T. PLACARDS  
REQUIRED (CFR172.504)

BULK ONLY  
Poison-2078

POISON CONSTITUENT  
(49CFR172.203(K))  
TDI

### BILL OF LADING DESCRIPTION

Toluene Diisocyanate-Poison B-UN 2078 RQ 100 lbs.  
\*\*\* Placarded: POISON \*\*\*

CC NO. 190

UN/NA CODE 2078

DATE PREPARED: 4 / 17 / 86

UPDATED: 5 / 25 / 89

WHILE BASF CORPORATION BELIEVES THE DATA SET FORTH HEREIN ARE ACCURATE AS OF THE DATE HEREOF, BASF CORPORATION MAKES NO WARRANTY WITH RESPECT THERETO AND EXPRESSLY DISCLAIMS ALL LIABILITY FOR RELIANCE THEREON. SUCH DATA ARE OFFERED SOLELY FOR YOUR CONSIDERATION, INVESTIGATION, AND VERIFICATION.

**SECTION X - PRODUCT LABEL****LUPRANATE\* T80-Type 1****DANGER: POISON****HARMFUL IF INHALED.**

CONTACT WITH EYES AND SKIN RESULTS IN SERIOUS BURNS. INHALATION OF VAPORS CAUSES SEVERE IRRITATION TO LUNGS. PULMONARY EDEMA MAY OCCUR. PULMONARY SENSITIZATION CAN OCCUR IN SOME INDIVIDUALS, LEADING TO ASTHMA-TYPE SPASMS OF THE BRONCHIAL TUBES AND DIFFICULTY IN BREATHING. INDIVIDUALS WITH A HISTORY OF RESPIRATORY ILLNESS, ASTHMATIC CONDITIONS, EYE DAMAGE OR TDI SENSITIZATION SHOULD NOT BE EXPOSED TO THIS PRODUCT.

IN AN NTP STUDY, TDI WAS CARCINOGENIC TO RODENTS GIVEN HIGH ORAL DOSES AND IS INCLUDED IN THE NTP ANNUAL REPORT ON CARCINOGENS. TDI WAS NOT CARCINOGENIC TO RATS IN A TWO-YEAR INHALATION STUDY.

Use with local exhaust. Wear an approved respirator or self-contained breathing apparatus, fitted goggles or face shield and safety glasses, rubber gloves, coveralls, boots, apron and other protective clothing as necessary to prevent contact.

**FIRST AID:**

**Eyes**-Immediately wash eyes with running water for 15 minutes.

Get immediate medical attention.

**Skin**-Wash affected areas with water while removing contaminated clothing. Get immediate medical attention. Launder contaminated clothing before reuse.

**Ingestion**-If swallowed, DO NOT INDUCE VOMITING. Dilute with water or milk and get immediate medical attention. Never give fluids or induce vomiting if the victim is unconscious or having convulsions.

**Inhalation**-Move to fresh air. Aid in breathing, if necessary, and get immediate medical attention.

**HANDLING AND STORAGE:** Keep containers closed and store in a well-ventilated place. Outage of container should be filled with dry inert gas at atmospheric pressure to avoid reaction with moisture. Contamination by moisture or basic compounds can cause dangerous pressure buildup in closed container. Store above 60 F to prevent freezing and isomer separation. If solidified, do not exceed 95 F while thawing to prevent discoloration. Mix before using.

**IN CASE OF SPILLS OR LEAKS:** Material is a RCRA-regulated product. Spills should be contained, absorbed and placed in suitable containers for disposal in a RCRA-licensed facility.

**IN CASE OF FIRE:** Use water fog, foam or CO2 extinguishing media. Firefighters should be equipped with self-contained breathing apparatus and turnout gear for protection against TDI vapors and toxic decomposition products.

**EMPTY CONTAINERS:** All labeled precautions must be observed when handling, storing and transporting empty containers due to product residues. Do not reuse this container unless it is professionally cleaned and reconditioned.

**DISPOSAL:** Spilled material, unused contents and empty containers must be disposed of in accordance with local, state and federal regulations. Refer to our Material Safety Data Sheet for specific disposal instructions.

**IN CASE OF CHEMICAL EMERGENCY:** Call CHEMTREC day or night for assistance and information concerning spilled material, fire, exposure and other chemical accidents 800-424-9300.

**ATTENTION:** This product is sold solely for use by industrial institutions. Refer to our Technical Bulletin and Material Safety Data Sheet regarding safety, usage, applications, hazards, procedures and disposal of this product. Consult your supervisor for additional information.

**FOR INDUSTRY USE ONLY.**

CAS No.: 584-84-9; 91-08-7.

Proper Shipping Name: Toluene Diisocyanate, Poison B - UN 2078 RQ

Made in USA.

Polymers

0488

PART B PARTITION COEFFICIENTS

Will be supplied by raw materials producer

5.02 a. Specify the half-life of the listed substance in the following media.

<u>Media</u>	<u>Half-life (specify units)</u>
Groundwater	_____
Atmosphere	_____
Surface water	_____
Soil	_____

b. Identify the listed substance's known transformation products that have a half-life greater than 24 hours.

<u>CAS No.</u>	<u>Name</u>	<u>Half-life (specify units)</u>	<u>Media</u>
_____	_____	_____	in _____
_____	_____	_____	in _____
_____	_____	_____	in _____
_____	_____	_____	in _____

5.03 Specify the octanol-water partition coefficient,  $K_{ow}$  ... \_\_\_\_\_ at 25°C  
 Method of calculation or determination ..... \_\_\_\_\_

5.04 Specify the soil-water partition coefficient,  $K_d$  ..... \_\_\_\_\_ at 25°C  
 Soil type ..... \_\_\_\_\_

5.05 Specify the organic carbon-water partition coefficient,  $K_{oc}$  ..... \_\_\_\_\_ at 25°C

5.06 Specify the Henry's Law Constant,  $H$  ..... \_\_\_\_\_ atm-m<sup>3</sup>/mole

☐ Mark (X) this box if you attach a continuation sheet.

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5.07 List the bioconcentration factor (BCF) of the listed substance, the species for which it was determined, and the type of test used in deriving the BCF.

Bioconcentration Factor

Species

Test<sup>1</sup>

Will be supplied by raw materials producer

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

---

<sup>1</sup>Use the following codes to designate the type of test:

F = Flowthrough

S = Static

---

☐ Mark (X) this box if you attach a continuation sheet.

6.04 For each market listed below, state the quantity sold and the total sales value of the listed substance sold or transferred in bulk during the reporting year.

☐ Response not required for TDI

<u>Market</u>	<u>Quantity Sold or Transferred (kg/yr)</u>	<u>Total Sales Value (\$/yr)</u>
Retail sales	_____	_____
Distribution -- Wholesalers	_____	_____
Distribution -- Retailers	_____	_____
Intra-company transfer	_____	_____
Repackagers	_____	_____
Mixture producers	_____	_____
Article producers	_____	_____
Other chemical manufacturers or processors	_____	_____
Exporters	_____	_____
Other (specify)	_____	_____
_____	_____	_____

6.05 Substitutes -- List all known commercially feasible substitutes that you know exist for the listed substance and state the cost of each substitute. A commercially feasible substitute is one which is economically and technologically feasible to use in your current operation, and which results in a final product with comparable performance in its end uses.

☐

<u>Substitute</u>	<u>Cost (\$/kg)</u>
Unknown	_____
_____	_____
_____	_____
_____	_____

☐ Mark (X) this box if you attach a continuation sheet.



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SECTION 7 MANUFACTURING AND PROCESSING INFORMATION

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General Instructions:

For questions 7.04-7.06, provide a separate response for each process block flow diagram provided in questions 7.01, 7.02, and 7.03. Identify the process type from which the information is extracted.

---

PART A MANUFACTURING AND PROCESSING PROCESS TYPE DESCRIPTION

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7.01 In accordance with the instructions, provide a process block flow diagram showing the major (greatest volume) process type involving the listed substance.

CBI

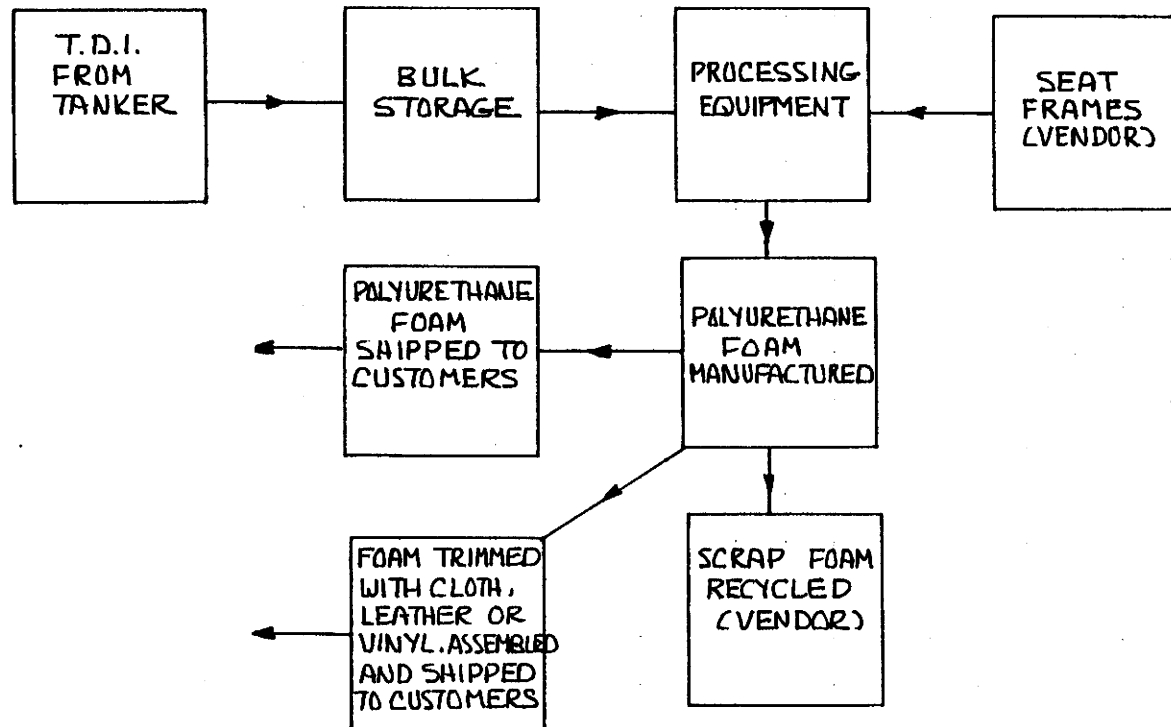
☐ Process type ..... Automotive Polyurethane Seat Manufacturing

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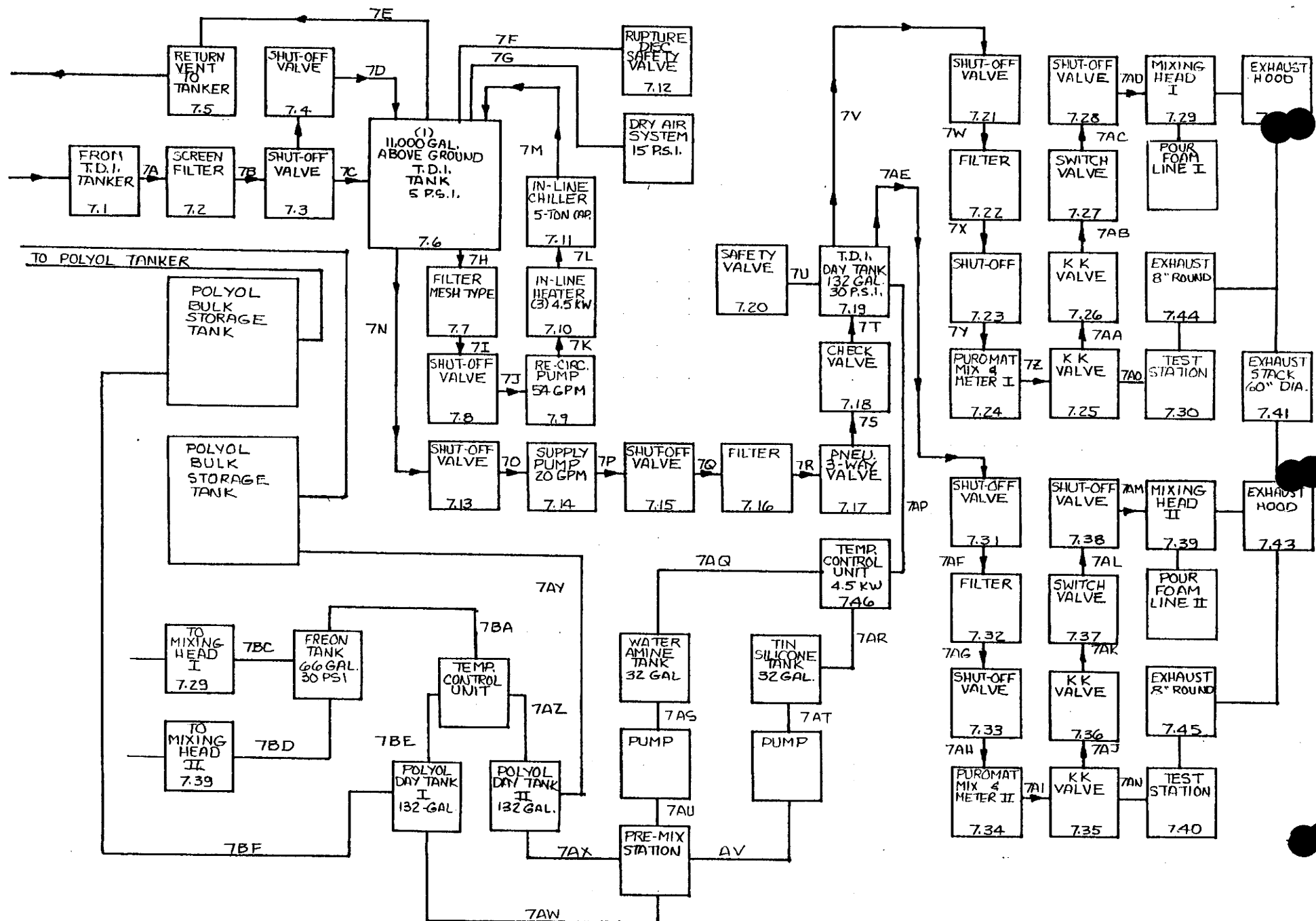
☒ Mark (X) this box if you attach a continuation sheet.

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# AUTOMOTIVE POLYURETHANE SEAT FOAM MANUFACTURING.



# AUTOMOTIVE POLYURETHANE SEAT FOAM MANUFACTURING



7.01 DETAILED FLOW DIAGRAM.

Response not required for TDI

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7.02 In accordance with the instructions, provide a separate process block flow diagram showing each of the three major (greatest volume) process types involving the listed substance.

CBI

☐ Process type ..... 

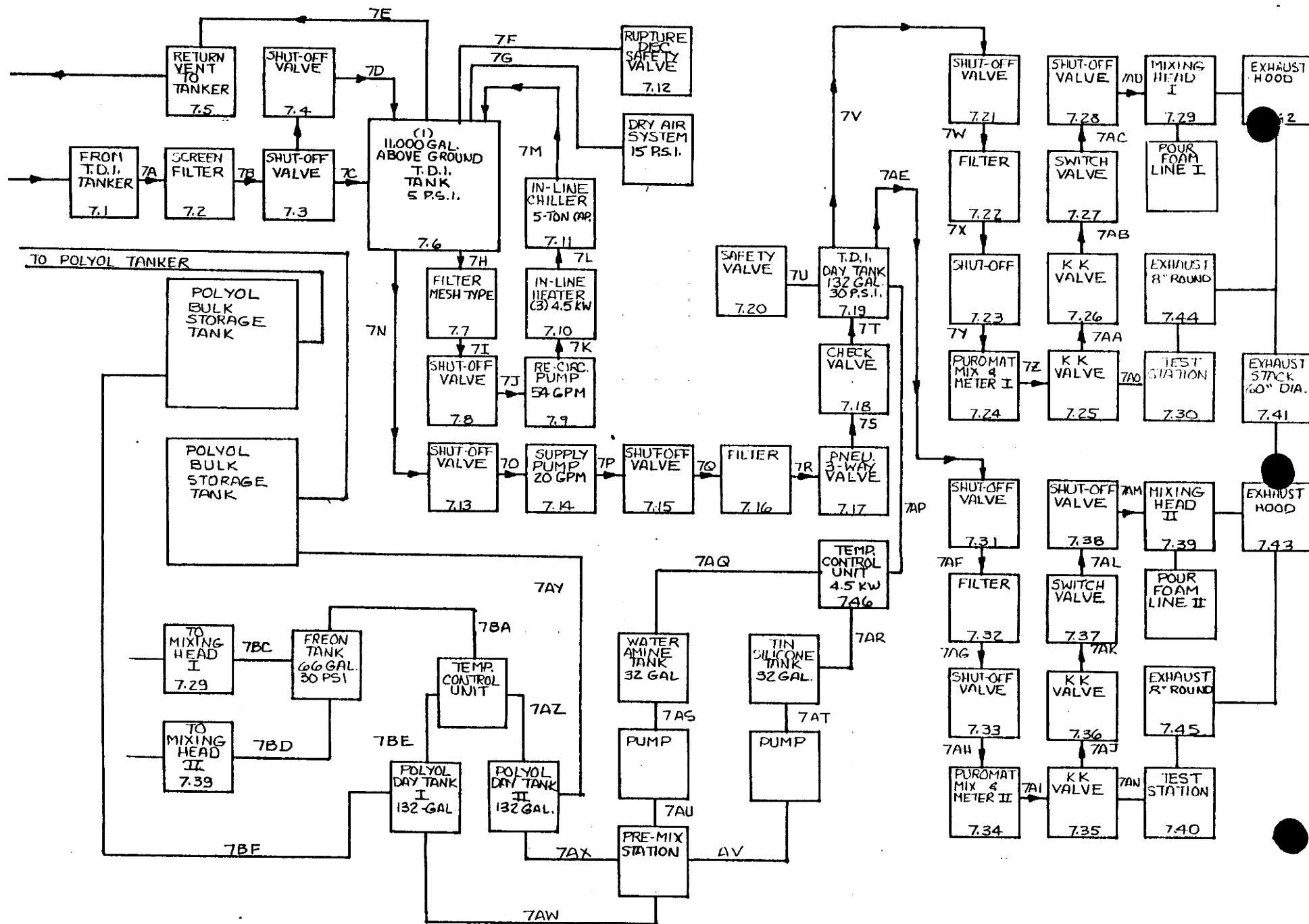
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☒ Mark (X) this box if you attach a continuation sheet.

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# AUTOMOTIVE POLYURETHANE SEAT FOAM MANUFACTURING



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7.03 In accordance with the instructions, provide a process block flow diagram showing all process emission streams and emission points that contain the listed substance and which, if combined, would total at least 90 percent of all facility emissions if not treated before emission into the environment. If all such emissions are released from one process type, provide a process block flow diagram using the instructions for question 7.01. If all such emissions are released from more than one process type, provide a process block flow diagram showing each process type as a separate block.

CBI .

☐ Process type ..... 

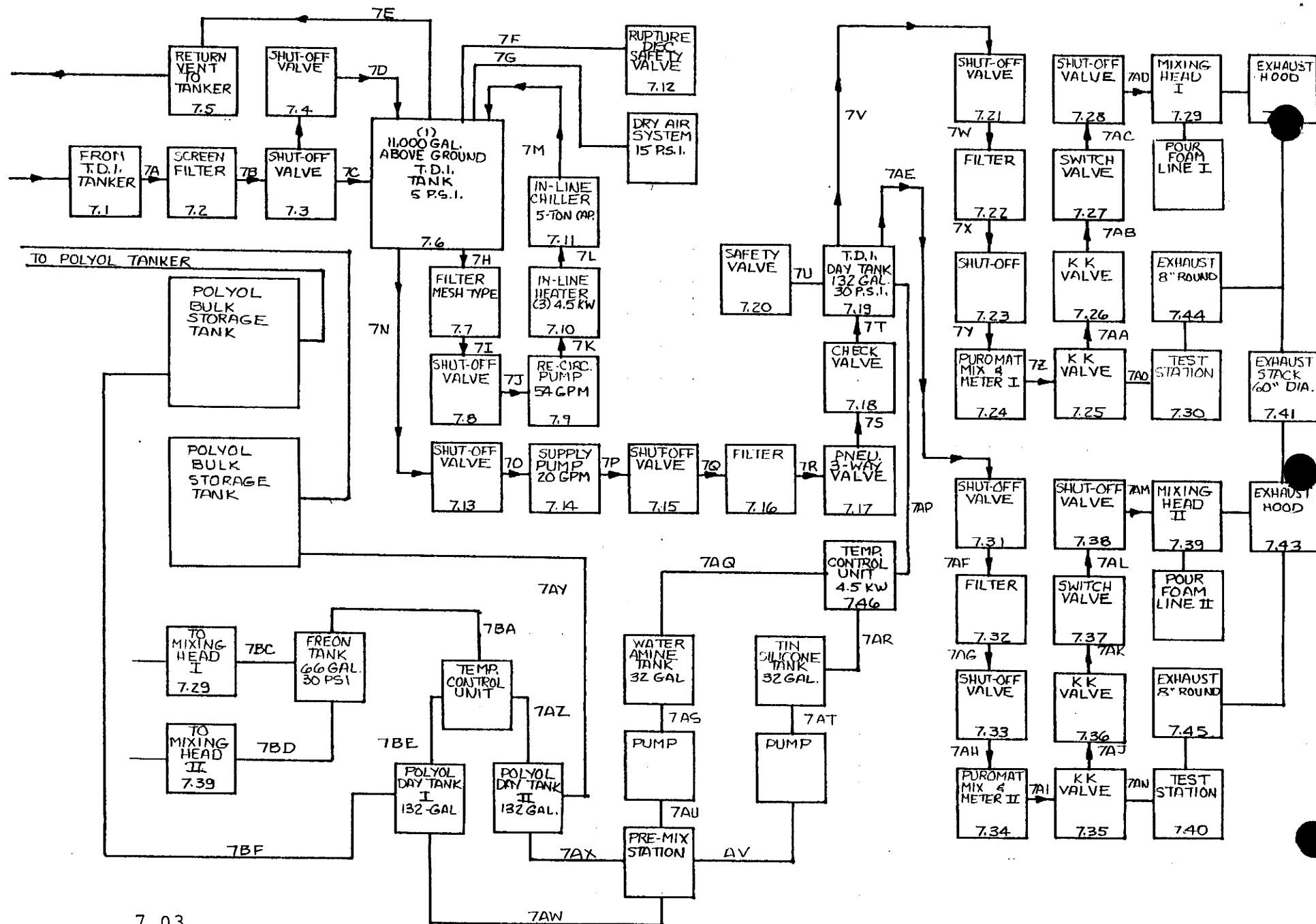
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☒ Mark (X) this box if you attach a continuation sheet.

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# AUTOMOTIVE POLYURETHANE SEAT FOAM MANUFACTURING



7.04 Describe the typical equipment types for each unit operation identified in your process block flow diagram(s). If a process block flow diagram is provided for more than one process type, photocopy this question and complete it separately for each process type.

CBI

[ ] Process type ..... Automotive Polyurethane Seat Foam Mfg.

Unit Operation ID Number	Typical Equipment Type	Operating Temperature Range (°C)	Operating Pressure Range (mm Hg)	Vessel Composition
7.6	TDI Bulk Tank	27 C	258.8	SA-285 PVOC grade carbon steel, phenolic Epoxy lined
7.1	Flex-Hose	27 C	258.8	High pressure Flex-Hose ChemType
7.7, 7.2, 7.16, 22	Screen Filter	27 C	258.8	Stainless steel wire mesh type
7.3, .4, .8, .13, .15, .21, .28, .31, .33, .38 .23	Shut-off valve	27 C	258.8	Chemical Ball Valve
7.9	Recirc. Pump	27 C	258.8	Positive displace. Rotary gear pump 54GPM
7.10	In-line Heater	27 C	258.8	(3) 4.5 KW In-line heaters
7.11	In-line Chiller	27 C	258.8	(1) 5-Ton chilled water type
7.12	Safety Valve	27 C	258.8	Rupture disk 2" With 15 PSI Disc.
7.14	Supply Pump	27 C	258.8	Positive Displaceme. Rotary Gear Pump 20GPM
7.17	Pneumatic 3-way Valve	27 C	258.8	3", 3-way valve
7.18	Check Valve	27 C	258.8	Ball type Check Valve
7.19	TDI Day Tank	27 C	258.8	SAE-285 Steel, Phenolic Resin lined
7.20	Day Tank Safety valve	27 C	258.8	Steel Tank
7.24, .34	Puromat I	27 C	258.8	High pressure meteri and mixing machines
7.25, 7.26 7.35, 7.36	KK Valve	27 C	258.8	Low pressure Recirculation valves
7.27, 7.37	Switch Valves	27 C	258.8	Low pressure switching valves
7.29, 7.39	Mixing Heads	27 C	258.8	Robotic X,Y,Z, Axis carrier.

[X] Mark (X) this box if you attach a continuation sheet.



7.05 Describe each process stream identified in your process block flow diagram(s). If a process block flow diagram is provided for more than one process type, photocopy this question and complete it separately for each process type.

CBI

☐ Process type ..... Automotive Polyurethane Foam Manufacturing

Process Stream ID Code	Process Stream Description	Physical State <sup>1</sup>	Stream Flow (kg/yr)
7A	TDI from tanker to filter	OL	485,248
7B	From filter to valve	OL	'
7C	From valve to valve	OL	'
7D	From valve to tank	OL	'
7E	Return vent line	GC	'
7F	Safety valve to atmosphere	GC	N/A
7G	Dry air line	GC	N/A
7H	Bulk tank to filter	OL	485,248

<sup>1</sup>Use the following codes to designate the physical state for each process stream:

GC = Gas (condensable at ambient temperature and pressure)  
 GU = Gas (uncondensable at ambient temperature and pressure)  
 SO = Solid  
 SY = Sludge or slurry  
 AL = Aqueous liquid  
 OL = Organic liquid  
 IL = Immiscible liquid (specify phases, e.g., 90% water, 10% toluene)

☒ Mark (X) this box if you attach a continuation sheet.

7.05 cont.

Process Stream ID Code	Process Stream Description	Physical State <sup>1</sup>	Stream Flow (kg/yr)
7I	From filter to valve	OL	485,248
7J	From valve to pump	OL	"
7K	From pump to heater	OL	"
7L	From heater to chiller	OL	"
7M	From chiller to bulk tank	OL	"
7N	From bulk tank to valve	OL	"
7O	From valve to pump	OL	"
7P	From pump to S/O valve	OL	"
7Q	From S/O valve to filter	OL	"
7R	From filter to 3-way valve	OL	"
7S	From 3-way valve to check valve	OL	"
7T	From check valve to day tank	OL	"
7U	From day tank to safety valve	OL	"
7V	From day tank to S/O valve	OL	"
7W	From S/O valve to filter	OL	"
7X	From filter to S/O valve	OL	"
7Y	From S/O valve to Puromat I	OL	"
7Z	From Puromat I to KK-valve	OL	"
7AA	From KK-valve to KK-valve	OL	"
7AB	From KK-valve to switch valve	OL	"
7AC	From switch valve to S/O valve	OL	"
7AD	From S/O valve to mix head	OL	"
7AE	From day tank to S/O valve	OL	"
7AF	From S/O valve to filter	OL	"
7AG	From filter to S/O valve	OL	"
7AH	From S/O valve to Puromat I	OL	"
7AI	From Puromat II to KK-valve	OL	"
7AJ	From KK-valve to KK-valve	OL	"
7AK	From KK-valve to switch valve	OL	"
7AL	From switch valve to shut off valve	OL	"
7AM	From shut off valve to mix head II	OL	"
7AN	From KK-valve to test station	OL	"
7AO	From KK-valve to test station	OL	"
7AP	From temp. control to day tank	OL	"

7.06 Characterize each process stream identified in your process block flow diagram(s). If a process block flow diagram is provided for more than one process type, photocopy this question and complete it separately for each process type. (Refer to the CBI instructions for further explanation and an example.)

☐ Process type ..... Automotive Polyurethane Seat Foam Manufacturing

a.	b.	c.	d.	e.
Process Stream ID Code	Known Compounds <sup>1</sup>	Concentrations <sup>2,3</sup> (% or ppm)	Other Expected Compounds	Estimated Concentrations (% or ppm)
7A thru 7AP	TDI	100% (E)	N/A	28.62
7BA	Freon	N/A	N/A	2.41 A
7AR	Tin Silicone	N/A	N/A	.81 A
7AW thru 7AX	Polyol	N/A	N/A	64.48
7AQ	Water-Amine	N/A	N/A	3.68 A

7.06 continued below

☐ Mark (X) this box if you attach a continuation sheet.

7.06 (continued)

<sup>1</sup>For each additive package introduced into a process stream, specify the compounds that are present in each additive package, and the concentration of each component. Assign an additive package number to each additive package and list this number in column b. (Refer to the instructions for further explanation and an example. Refer to the glossary for the definition of additive package.)

Additive Package Number	Components of Additive Package	Concentrations (% or ppm)
<u>1</u>	<u>Freon</u>	<u>2.41% (A)</u>
<u>2</u>	<u>Tin Silicone</u>	<u>.81% (A)</u>
<u>3</u>	<u>Water Amine</u>	<u>3.68% (A)</u>
<u>4</u>	<u>Polyol (E-707)</u>	<u>64.48% (A)</u>
<u>5</u>		

<sup>2</sup>Use the following codes to designate how the concentration was determined:

- (A) = Analytical result  
E = Engineering judgement/calculation

<sup>3</sup>Use the following codes to designate how the concentration was measured:

- (V) = Volume  
W = Weight

☐ Mark (X) this box if you attach a continuation sheet.

---

PART A RESIDUAL TREATMENT PROCESS DESCRIPTION

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8.01 In accordance with the instructions, provide a residual treatment block flow diagram which describes the treatment process used for residuals identified in question 7.01.

CBI

☐ Process type ..... 

---

N/A

---

☐ Mark (X) this box if you attach a continuation sheet.

---

PART B RESIDUAL GENERATION AND CHARACTERIZATION

8.05 Characterize each process stream identified in your residual treatment block flow diagram(s). If a residual treatment block flow diagram is provided for more than one process type, photocopy this question and complete it separately for each process type. (Refer to the instructions for further explanation and an example.)

☐ Process type ..... Automotive Polyurethane Seat Foam Manufacturing

a.	b.	c.	d.	e.	f.	g.
Stream ID Code	Type of Hazardous Waste <sup>1</sup>	Physical State of Residual <sup>2</sup>	Known Compounds <sup>3</sup>	Concentrations (% or ppm) <sup>4,5,6</sup>	Other Expected Compounds	Estimated Concentrations (% or ppm)
<u>7.30</u>	<u>C,R</u>	<u>OL</u>	<u>TDI</u>	<u>100%</u>	<u>N/A</u>	<u>100%</u>
<u>7.40</u>	<u>C,R</u>	<u>OL</u>	<u>TDI</u>	<u>100%</u>	<u>N/A</u>	<u>100%</u>

8.05 continued below

☐ Mark (X) this box if you attach a continuation sheet.

---

8.05 (continued)

<sup>1</sup>Use the following codes to designate the type of hazardous waste:

I = Ignitable  
C = Corrosive  
R = Reactive  
E = EP toxic  
T = Toxic  
H = Acutely hazardous

<sup>2</sup>Use the following codes to designate the physical state of the residual:

GC = Gas (condensable at ambient temperature and pressure)  
GU = Gas (uncondensable at ambient temperature and pressure)  
SO = Solid  
SY = Sludge or slurry  
AL = Aqueous liquid  
OL = Organic liquid  
IL = Immiscible liquid (specify phases, e.g., 90% water, 10% toluene)

-----  
8.05 continued below

---

☐ Mark (X) this box if you attach a continuation sheet.

---

8.05 (continued)

<sup>3</sup>For each additive package introduced into a process stream, specify the compounds that are present in each additive package, and the concentration of each component. Assign an additive package number to each additive package and list this number in column d. (Refer to the instructions for further explanation and an example. Refer to the glossary for the definition of additive package.)

<u>Additive Package Number</u>	<u>Components of Additive Package</u>	<u>Concentrations (% or ppm)</u>
<u>1</u>	<u>Freon</u>	<u>2.41% (A) (V)</u>
<u>2</u>	<u>Tin Silicone</u>	<u>.81% (A) (V)</u>
<u>3</u>	<u>Water Amine</u>	<u>3.68% (A) (V)</u>
<u>4</u>	<u>Polyol (E-707)</u>	<u>64.48% (A) (V)</u>
<u>5</u>		

<sup>4</sup>Use the following codes to designate how the concentration was determined:

A = Analytical result

E = Engineering judgement/calculation

8.05 continued below

☐ Mark (X) this box if you attach a continuation sheet.



---

8.05 (continued)

<sup>5</sup>Use the following codes to designate how the concentration was measured:

V = Volume

W = Weight

<sup>6</sup>Specify the analytical test methods used and their detection limits in the table below. Assign a code to each test method used and list those codes in column e.

<u>Code</u>	<u>Method</u>	<u>Detection Limit</u> <u>(± ug/l)</u>
<u>1</u>	<u>Scale</u>	<u>N/A</u>
<u>2</u>	<u>Scale</u>	<u>N/A</u>
<u>3</u>	<u>Scale</u>	<u>N/A</u>
<u>4</u>	<u>Scale</u>	<u>N/A</u>
<u>5</u>	<u></u>	<u></u>
<u>6</u>	<u></u>	<u></u>

---

☐ Mark (X) this box if you attach a continuation sheet.

---

CBI

[illegible]

<sup>2</sup>Use the codes provided in Exhibit 8-2 to designate the management methods

58

Response not required for TDI

8.22 Describe the combustion chamber design parameters for each of the three largest (by capacity) incinerators that are used on-site to burn the residuals identified in your process block or residual treatment block flow diagram(s).

☐

Incinerator	Combustion Chamber Temperature (°C)		Location of Temperature Monitor		Residence Time In Combustion Chamber (seconds)	
	Primary	Secondary	Primary	Secondary	Primary	Secondary
1						
2						
3						

Indicate if Office of Solid Waste survey has been submitted in lieu of response by circling the appropriate response.

Yes ..... 1

No ..... 2

8.23 Complete the following table for the three largest (by capacity) incinerators that are used on-site to burn the residuals identified in your process block or residual treatment block flow diagram(s).

☐

Incinerator	Air Pollution Control Device <sup>1</sup>	Types of Emissions Data Available
1	N/A	
2	N/A	
3	N/A	

Indicate if Office of Solid Waste survey has been submitted in lieu of response by circling the appropriate response.

Yes ..... 1

No ..... 2

<sup>1</sup>Use the following codes to designate the air pollution control device:

S = Scrubber (include type of scrubber in parenthesis)

E = Electrostatic precipitator

O = Other (specify) \_\_\_\_\_

☐ Mark (X) this box if you attach a continuation sheet.

---

PART A EMPLOYMENT AND POTENTIAL EXPOSURE PROFILE

---

9.01 Mark (X) the appropriate column to indicate whether your company maintains records on the following data elements for hourly and salaried workers. Specify for each data element the year in which you began maintaining records and the number of years the records for that data element are maintained. (Refer to the instructions for further explanation and an example.)

CBI

☐

Data Element	Data are Maintained for:		Year in Which Data Collection Began	Number of Years Records Are Maintained
	Hourly Workers	Salaried Workers		
Date of hire	X	X	1953	20
Age at hire	X	X	1953	"
Work history of individual before employment at your facility	X	X	"	20
Sex	X	X	"	"
Race	X	X	"	"
Job titles	X	X	"	"
Start date for each job title	X	X	"	"
End date for each job title	X	X	"	"
Work area industrial hygiene monitoring data	X	X	1985	"
Personal employee monitoring data	X	X	1985	"
Employee medical history	X	X	1953	"
Employee smoking history	N/A	N/A	N/A	N/A
Accident history	X	X	1953	20
Retirement date	X	X	1953	"
Termination date	X	X	1953	20
Vital status of retirees	N/A	N/A	N/A	N/A
Cause of death data	N/A	N/A	N/A	N/A

---

☐ Mark (X) this box if you attach a continuation sheet.

---

9.02 In accordance with the instructions, complete the following table for each activity in which you engage.

CBI

☐

a.	b.	c.	d.	e.
<u>Activity</u>	<u>Process Category</u>	<u>Yearly Quantity (kg)</u>	<u>Total Workers</u>	<u>Total Worker-Hours</u>
Manufacture of the listed substance	Enclosed	_____	_____	_____
	Controlled Release	_____	_____	_____
	Open	_____	_____	_____
On-site use as reactant	Enclosed	_____	_____	_____
	Controlled Release	<u>452,407</u>	<u>45</u>	<u>54,000</u>
	Open	_____	_____	_____
On-site use as nonreactant	Enclosed	_____	_____	_____
	Controlled Release	_____	_____	_____
	Open	_____	_____	_____
On-site preparation of products	Enclosed	_____	_____	_____
	Controlled Release	_____	_____	_____
	Open	_____	_____	_____

☐ Mark (X) this box if you attach a continuation sheet.

9.03 Provide a descriptive job title for each labor category at your facility that encompasses workers who may potentially come in contact with or be exposed to the listed substance.

CBI

☐

Labor Category

Descriptive Job Title

A

Supervisor

B

Foam Technician

C

Machine Repair

D

Electrician

E

Tool and Die Repair

F

Sweeper

G

Foam Assembler

H

Engineers

I

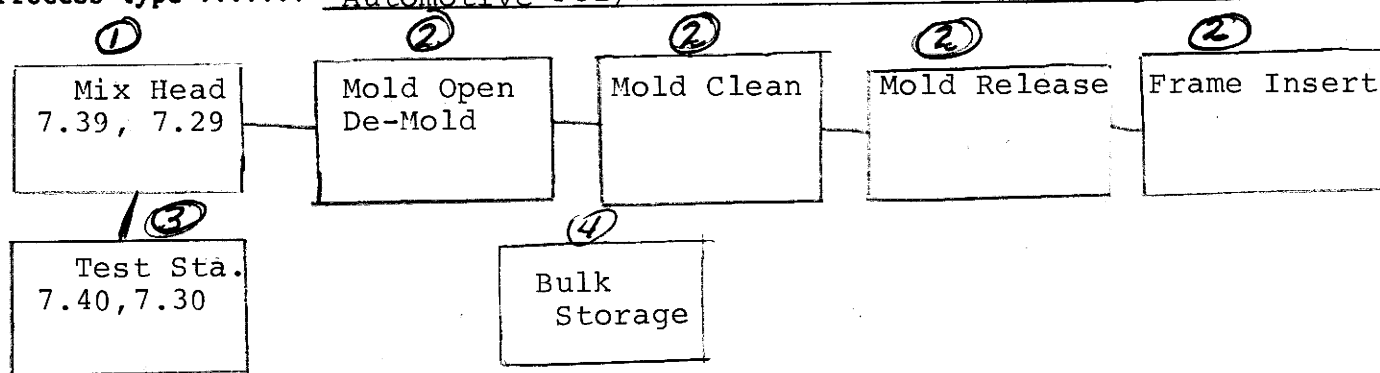
J

☐ Mark (X) this box if you attach a continuation sheet.

9.04 In accordance with the instructions, provide your process block flow diagram(s) and indicate associated work areas.

CBI

☐ Process type ..... Automotive Polyurethane Foam Manufacturing



☐ Mark (X) this box if you attach a continuation sheet.

9.05 Describe the various work area(s) shown in question 9.04 that encompass workers who may potentially come in contact with or be exposed to the listed substance. Add any additional areas not shown in the process block flow diagram in question 7.01 or 7.02. Photocopy this question and complete it separately for each process type.

CBI

☐ Process type ..... Automotive Polyurethane Foam Manufacturing

Work Area ID

Description of Work Areas and Worker Activities

- |    |  |
|----|--|
| 1  | Mix Head-(Supervisors, Technician, Engineers, take sample as a result of calibration-also maintenance, machine repair) |
| 2  | Mold Open-clean release and frame insert. (Workers perform duties, repair, sweep and assembly).                        |
| 3  | Test Station-(supervisors, Technician, Engineers Calibrate equipment Maintenance, machine repair)                      |
| 4  | Bulk Storage-Pump Repair (machine repair, maintenance)   |
| 5  | _____  |
| 6  | _____  |
| 7  | _____  |
| 8  | _____  |
| 9  | _____  |
| 10 | _____  |

☐ Mark (X) this box if you attach a continuation sheet.



9.06 Complete the following table for each work area identified in question 9.05, and for each labor category at your facility that encompasses workers who may potentially come in contact with or be exposed to the listed substance. Photocopy this question and complete it separately for each process type and work area.

CBI

☐ Process type ..... Automotive Polyurethane Seat Foam Manufacturing  
 Work area ..... 1 & 3

Labor Category	Number of Workers Exposed	Mode of Exposure (e.g., direct skin contact)	Physical State of Listed Substance <sup>1</sup>	Average Length of Exposure Per Day <sup>2</sup>	Number of Days per Year Exposed
A, B	5	Inhalation, skin	GU	E	246

<sup>1</sup>Use the following codes to designate the physical state of the listed substance at the point of exposure:

GC = Gas (condensable at ambient temperature and pressure)	SY = Sludge or slurry
GU = Gas (uncondensable at ambient temperature and pressure; includes fumes, vapors, etc.)	AL = Aqueous liquid
SO = Solid	OL = Organic liquid
	IL = Immiscible liquid (specify phases, e.g., 90% water, 10% toluene)

<sup>2</sup>Use the following codes to designate average length of exposure per day:

A = 15 minutes or less	D = Greater than 2 hours, but not exceeding 4 hours
B = Greater than 15 minutes, but not exceeding 1 hour	E = Greater than 4 hours, but not exceeding 8 hours
C = Greater than one hour, but not exceeding 2 hours	F = Greater than 8 hours

☐ Mark (X) this box if you attach a continuation sheet.

9.06 Complete the following table for each work area identified in question 9.05, and for each labor category at your facility that encompasses workers who may potentially come in contact with or be exposed to the listed substance. Photocopy this question and complete it separately for each process type and work area.

CBI

☐ Process type ..... Automotive Polyurethane Seat Foam Manufacturing  
 Work area ..... 2

Labor Category	Number of Workers Exposed	Mode of Exposure (e.g., direct skin contact) /	Physical State of Listed Substance <sup>1</sup>	Average Length of Exposure Per Day <sup>2</sup>	Number of Days per Year Exposed
A,B,F,G,	75	Skin Inhalation	GU	E	246

<sup>1</sup>Use the following codes to designate the physical state of the listed substance at the point of exposure:

GC = Gas (condensable at ambient temperature and pressure)	SY = Sludge or slurry
GU = Gas (uncondensable at ambient temperature and pressure; includes fumes, vapors, etc.)	AL = Aqueous liquid
SO = Solid	OL = Organic liquid
	IL = Immiscible liquid (specify phases, e.g., 90% water, 10% toluene)

<sup>2</sup>Use the following codes to designate average length of exposure per day:

A = 15 minutes or less	D = Greater than 2 hours, but not exceeding 4 hours
B = Greater than 15 minutes, but not exceeding 1 hour	E = Greater than 4 hours, but not exceeding 8 hours
C = Greater than one hour, but not exceeding 2 hours	F = Greater than 8 hours

☐ Mark (X) this box if you attach a continuation sheet.

9.06 Complete the following table for each work area identified in question 9.05, and for each labor category at your facility that encompasses workers who may potentially come in contact with or be exposed to the listed substance. Photocopy this question and complete it separately for each process type and work area.

CBI

☐ Process type ..... Automotive Polyurethane Seat Foam Manufacturing

Work area ..... 3

Labor Category	Number of Workers Exposed	Mode of Exposure (e.g., direct skin contact)	Physical State of Listed Substance <sup>1</sup>	Average Length of Exposure Per Day <sup>2</sup>	Number of Days per Year Exposed
C,D,E,H	15	Skin, Inhalation	GU	E	246

<sup>1</sup>Use the following codes to designate the physical state of the listed substance at the point of exposure:

GC = Gas (condensable at ambient temperature and pressure)  
 GU = Gas (uncondensable at ambient temperature and pressure; includes fumes, vapors, etc.)  
 SO = Solid

SY = Sludge or slurry  
 AL = Aqueous liquid  
 OL = Organic liquid  
 IL = Immiscible liquid (specify phases, e.g., 90% water, 10% toluene)

<sup>2</sup>Use the following codes to designate average length of exposure per day:

A = 15 minutes or less  
 B = Greater than 15 minutes, but not exceeding 1 hour  
 C = Greater than one hour, but not exceeding 2 hours

D = Greater than 2 hours, but not exceeding 4 hours  
 E = Greater than 4 hours, but not exceeding 8 hours  
 F = Greater than 8 hours

☐ Mark (X) this box if you attach a continuation sheet.

9.06 Complete the following table for each work area identified in question 9.05, and for each labor category at your facility that encompasses workers who may potentially come in contact with or be exposed to the listed substance. Photocopy this question and complete it separately for each process type and work area.

CBI ☐ Process type ..... Automotive Polyurethane Seat Foam Manufacturing

Work area ..... 4

Labor Category	Number of Workers Exposed	Mode of Exposure (e.g., direct skin contact)	Physical State of Listed Substance <sup>1</sup>	Average Length of Exposure Per Day <sup>2</sup>	Number of Days per Year Exposed
<u>C,D,E</u>	<u>12</u>	<u>Inhalation, Skin</u>	<u>GU</u>	<u>8</u>	<u>150</u>
_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____

<sup>1</sup>Use the following codes to designate the physical state of the listed substance at the point of exposure:

GC = Gas (condensable at ambient temperature and pressure)  
 GU = Gas (uncondensable at ambient temperature and pressure; includes fumes, vapors, etc.)  
 SO = Solid

SY = Sludge or slurry  
 AL = Aqueous liquid  
 OL = Organic liquid  
 IL = Immiscible liquid (specify phases, e.g., 90% water, 10% toluene)

<sup>2</sup>Use the following codes to designate average length of exposure per day:

A = 15 minutes or less  
 B = Greater than 15 minutes, but not exceeding 1 hour  
 C = Greater than one hour, but not exceeding 2 hours

D = Greater than 2 hours, but not exceeding 4 hours  
 E = Greater than 4 hours, but not exceeding 8 hours  
 F = Greater than 8 hours

☐ Mark (X) this box if you attach a continuation sheet.

9.07 For each labor category represented in question 9.06, indicate the 8-hour Time Weighted Average (TWA) exposure levels and the 15-minute peak exposure levels. Photocopy this question and complete it separately for each process type and work area.

CBI

☐ Process type ..... Automotive Polyurethane Seat Foam Manufacturing

Work area ..... (1) (2)

<u>Labor Category</u>	<u>8-hour TWA Exposure Level (ppm, mg/m<sup>3</sup>, other-specify)</u>	<u>15-Minute Peak Exposure Level (ppm, mg/m<sup>3</sup>, other-specify)</u>
<u>A,B,C,D,E,F,G,H,</u>	3.5 ppm	unknown
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

☐ Mark (X) this box if you attach a continuation sheet.

9.07 For each labor category represented in question 9.06, indicate the 8-hour Time Weighted Average (TWA) exposure levels and the 15-minute peak exposure levels. Photocopy this question and complete it separately for each process type and work area.

CBI

☐ Process type ..... Automotive Polyurethane Seat Foam Manufacturing

Work area ..... (3)

Labor Category	8-hour TWA Exposure Level (ppm, mg/m <sup>3</sup> , other-specify)	15-Minute Peak Exposure Level (ppm, mg/m <sup>3</sup> , other-specify)
A,B,C,D,E,F,G,H	*Area monitored by constant monitoring device Reading-0 PPB	10 min. ave./24 hrs. day
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

\*MDA Scientific Inc.  
TDI Monitor Series 7100

☐ Mark (X) this box if you attach a continuation sheet.

PART B WORK PLACE MONITORING PROGRAM

9.08 If you monitor worker exposure to the listed substance, complete the following table.

CBI

☐

Sample/Test	Work Area ID	Testing Frequency (per year)	Number of Samples (per test)	Who Samples <sup>1</sup>	Analyzed In-House (Y/N)	Number of Years Records Maintained
Personal breathing zone	2	1	4	C	Y	30
General work area (air)	1,3	1	4	C, *D	Y	30
Wipe samples	N/A	N/A	N/A	N/A	N/A	N/A
Adhesive patches	N/A	N/A	N/A	N/A	N/A	N/A
Blood samples	N/A	N/A	N/A	N/A	N/A	N/A
Urine samples	N/A	N/A	N/A	N/A	N/A	N/A
Respiratory samples	D	1	1	**D	N	30
Allergy tests	N/A	N/A	N/A	N/A	N/A	N/A
Other (specify)						
Monitor	Foam Bulk Storage	Continuous	Every 10 min.	D	Y	30
Other (specify)						
	N/A	N/A	N/A	N/A	N/A	N/A
Other (specify)						

<sup>1</sup>Use the following codes to designate who takes the monitoring samples:

A = Plant industrial hygienist

B = Insurance carrier

C = OSHA consultant

D = Other (specify) \*Clayton Environmental

\*\*Motor City Medical

☐ Mark (X) this box if you attach a continuation sheet.

9.09 For each sample type identified in question 9.08, describe the type of sampling and analytical methodology used for each type of sample.

Sample Type	Sampling and Analytical Methodology

9.10 If you conduct personal and/or ambient air monitoring for the listed substance, specify the following information for each equipment type used.

Equipment Type <sup>1</sup>	Detection Limit <sup>2</sup>	Manufacturer	Averaging Time (hr)	Model Number
MSA personal sampling pump and "Nitro" Reagent	A	unknown	8	7100

<sup>1</sup>Use the following codes to designate personal air monitoring equipment types:

- A = Passive dosimeter
- B = Detector tube
- C = Charcoal filtration tube with pump
- D = Other (specify) \_\_\_\_\_

Use the following codes to designate ambient air monitoring equipment types:

- E = Stationary monitors located within work area
- F = Stationary monitors located within facility
- G = Stationary monitors located at plant boundary
- H = Mobile monitoring equipment (specify) \_\_\_\_\_
- I = Other (specify) \_\_\_\_\_

<sup>2</sup>Use the following codes to designate detection limit units:

- A = ppm
- B = Fibers/cubic centimeter (f/cc)
- C = Micrograms/cubic meter ( $\mu/m^3$ )

☐ Mark (X) this box if you attach a continuation sheet.



9.11 If you conduct routine medical tests for monitoring the health effects of exposure to the listed substance, specify the type and frequency of the tests.

CBI

☐

Test Description

Frequency  
(weekly, monthly, yearly, etc.)

Pulmonary Function

yearly

☐ Mark (X) this box if you attach a continuation sheet.

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PART C ENGINEERING CONTROLS

---

9.12 Describe the engineering controls that you use to reduce or eliminate worker exposure to the listed substance. Photocopy this question and complete it separately for each process type and work area.

CBI

☐ Process type ..... Automotive Polyurethane Seat Foam Manufacturing

Work area .....

<u>Engineering Controls</u>	<u>Used (Y/N)</u>	<u>Year Installed</u>	<u>Upgraded (Y/N)</u>	<u>Year Upgraded</u>
Ventilation:				
Local exhaust	<u>Y</u>	<u>1985</u>	<u>Y</u>	<u>1986</u>
General dilution	<u>N/A</u>	<u>N/A</u>	<u>N/A</u>	<u>N/A</u>
Other (specify) _____	<u>N/A</u>	<u>N/A</u>	<u>N/A</u>	<u>N/A</u>
Vessel emission controls	<u>N</u>	<u>N/A</u>	<u>N/A</u>	<u>N/A</u>
Mechanical loading or packaging equipment	<u>N</u>	<u>N/A</u>	<u>N/A</u>	<u>N/A</u>
Other (specify) _____	<u>N/A</u>	<u>N/A</u>	<u>N/A</u>	<u>N/A</u>

---

☐ Mark (X) this box if you attach a continuation sheet.

---

9.13 Describe all equipment or process modifications you have made within the 3 years prior to the reporting year that have resulted in a reduction of worker exposure to the listed substance. For each equipment or process modification described, state the percentage reduction in exposure that resulted. Photocopy this question and complete it separately for each process type and work area.

CBI

☐ Process type ..... Automotive Polyurethane Seat Foam Manufacturing

Work area ..... \_\_\_\_\_

<u>Equipment or Process Modification</u>	<u>Reduction in Worker Exposure Per Year (%)</u>
<u>First production line installed 1985, second</u> <u>production line installed 1986, second line</u> <u>exhaust system increased by 20%</u>	<u>10-20%</u>
_____	_____
_____	_____

☐ Mark (X) this box if you attach a continuation sheet.

---

PART D PERSONAL PROTECTIVE AND SAFETY EQUIPMENT

---

9.14 Describe the personal protective and safety equipment that your workers wear or use in each work area in order to reduce or eliminate their exposure to the listed substance. Photocopy this question and complete it separately for each process type and work area.

CBI

[ ] Process type ..... Automotive Polyurethane Seat Foam Manufacturing

Work area ..... 1, 2, 3

<u>Equipment Types</u>	<u>Wear or Use (Y/N)</u>
Respirators	<u>N</u>
Safety goggles/glasses	<u>Y</u>
Face shields	<u>N</u>
Coveralls	<u>Y</u>
Bib aprons	<u>Y</u>
Chemical-resistant gloves	<u>Y</u>
Other (specify)	
_____	_____
_____	_____

---

[ ] Mark (X) this box if you attach a continuation sheet.

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PART D PERSONAL PROTECTIVE AND SAFETY EQUIPMENT

---

9.14 Describe the personal protective and safety equipment that your workers wear or use in each work area in order to reduce or eliminate their exposure to the listed substance. Photocopy this question and complete it separately for each process type and work area.

CBI

☐ Process type ..... Automotive Polyurethane Seat Foam Manufacturing

Work area ..... 4

<u>Equipment Types</u>	<u>Wear or Use (Y/N)</u>
Respirators	<u>Y</u>
Safety goggles/glasses	<u>Y</u>
Face shields	<u>Y</u>
Coveralls	<u>Y</u>
Bib aprons	<u>Y</u>
Chemical-resistant gloves	<u>Y</u>
Other (specify)	
_____	_____
_____	_____

---

☐ Mark (X) this box if you attach a continuation sheet.

---

9.15 If workers use respirators when working with the listed substance, specify for each process type, the work areas where the respirators are used, the type of respirators used, the average usage, whether or not the respirators were fit tested, and the type and frequency of the fit tests. Photocopy this question and complete it separately for each process type.

CBI

☐ Process type ..... Automotive Polyurethane Seat Foam Manufacturing

Work Area	Respirator Type	Average Usage <sup>1</sup>	Fit Tested (Y/N)	Type of Fit Test <sup>2</sup>	Frequency of Fit Tests (per year)
Bulk Storage	Supplied air positive pressure	B	Y	OT	1
_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____

<sup>1</sup>Use the following codes to designate average usage:

A = Daily  
 B = Weekly  
 C = Monthly  
 D = Once a year  
 E = Other (specify) \_\_\_\_\_

<sup>2</sup>Use the following codes to designate the type of fit test:

QL = Qualitative  
 QT = Quantitative

☐ Mark (X) this box if you attach a continuation sheet.

---

PART E WORK PRACTICES

---

- 9.19 Describe all of the work practices and administrative controls used to reduce or eliminate worker exposure to the listed substance (e.g., restrict entrance only to authorized workers, mark areas with warning signs, insure worker detection and monitoring practices, provide worker training programs, etc.). Photocopy this CBI question and complete it separately for each process type and work area.

☐

Process type ..... Automotive Polyurethane Foam Manufacturing

Work area ..... 1, 2, 3, 4

Right to Know Training, No Smoking, Restricted Areas, Electrical

Panel Lockout, Handling Hazardous Chemicals

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- 9.20 Indicate (X) how often you perform each housekeeping task used to clean up routine leaks or spills of the listed substance. Photocopy this question and complete it separately for each process type and work area.

Process type ..... Automotive Polyurethane Seat Foam Manufacturing

Work area ..... Foam Assembly

<u>Housekeeping Tasks</u>	<u>Less Than Once Per Day</u>	<u>1-2 Times Per Day</u>	<u>3-4 Times Per Day</u>	<u>More Than 4 Times Per Day</u>
Sweeping	<u>                    </u>	<u>                    </u>	<u>          X          </u>	<u>                    </u>
Vacuuming	<u>                    </u>	<u>                    </u>	<u>          X          </u>	<u>                    </u>
Water flushing of floors	<u>          X          </u>	<u>                    </u>	<u>                    </u>	<u>                    </u>
Other (specify)				
<u>Floor Absorbant</u>	<u>                    </u>	<u>                    </u>	<u>          X          </u>	<u>                    </u>

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☐ Mark (X) this box if you attach a continuation sheet.

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Response not required for TDI

9.21 Do you have a written medical action plan for responding to routine or emergency exposure to the listed substance?

Routine exposure

Yes ..... 1

No ..... 2

Emergency exposure

Yes ..... 1

No ..... 2

If yes, where are copies of the plan maintained?

Routine exposure: \_\_\_\_\_

Emergency exposure: \_\_\_\_\_

9.22 Do you have a written leak and spill cleanup plan that addresses the listed substance? Circle the appropriate response.

Yes ..... ☒ 1

No ..... 2

Spills are not routine - and are flushed with neutralizer

If yes, where are copies of the plan maintained? Foam Assembly Area, Engineering  
Local Fire Department, EPA, and Personnel Departments

Has this plan been coordinated with state or local government response organizations?  
Circle the appropriate response.

Yes ..... ☒ 1

No ..... 2

Response not required for TDI

9.23 Who is responsible for monitoring worker safety at your facility? Circle the appropriate response.

Plant safety specialist ..... 1

Insurance carrier ..... 2

OSHA consultant ..... 3

Other (specify) \_\_\_\_\_ 4

☐ Mark (X) this box if you attach a continuation sheet.



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SECTION 10 ENVIRONMENTAL RELEASE

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General Instructions:

Complete Part E (questions 10.23-10.35) for each non-routine release involving the listed substance that occurred during the reporting year. Report on all releases that are equal to or greater than the listed substance's reportable quantity value, RQ, unless the release is federally permitted as defined in 42 U.S.C. 9601, or is specifically excluded under the definition of release as defined in 40 CFR 302.3(22). Reportable quantities are codified in 40 CFR Part 302. If the listed substance is not a hazardous substance under the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA) and, thus, does not have an RQ, then report releases that exceed 2,270 kg. If such a substance however, is designated as a CERCLA hazardous substance, then report those releases that are equal to or greater than the RQ. The facility may have answered these questions or similar questions under the Agency's Accidental Release Information Program and may already have this information readily available. Assign a number to each release and use this number throughout this part to identify the release. Releases over more than a 24-hour period are not single releases, i.e., the release of a chemical substance equal to or greater than an RQ must be reported as a separate release for each 24-hour period the release exceeds the RQ.

For questions 10.25-10.35, answer the questions for each release identified in question 10.23. Photocopy these questions and complete them separately for each release.

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PART A GENERAL INFORMATION

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10.01 Where is your facility located? Circle all appropriate responses.

CBI

- ☐ Industrial area ..... 1
- Urban area ..... 2
- Residential area ..... 3
- Agricultural area ..... 4
- Rural area ..... 5
- Adjacent to a park or a recreational area ..... 6
- Within 1 mile of a navigable waterway ..... 7
- Within 1 mile of a school, university, hospital, or nursing home facility ..... 8
- Within 1 mile of a non-navigable waterway ..... 9
- Other (specify) \_\_\_\_\_ 10

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☐ Mark (X) this box if you attach a continuation sheet.

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10.02 Specify the exact location of your facility (from central point where process unit is located) in terms of latitude and longitude or Universal Transverse Mercader (UTM) coordinates.

Latitude ..... 42 ° 25 ' 15 " N

Longitude ..... 83 ° 03 ' 05 " W

UTM coordinates ..... Zone \_\_\_\_\_, Northing \_\_\_\_\_, Easting \_\_\_\_\_

Response not required for TDI

10.03 If you monitor meteorological conditions in the vicinity of your facility, provide the following information.

Average annual precipitation ..... inches/year

Predominant wind direction .....

Response not required for TDI

10.04 Indicate the depth to groundwater below your facility.

Depth to groundwater ..... meters

10.05 For each on-site activity listed, indicate (Y/N/NA) all routine releases of the listed substance to the environment. (Refer to the instructions for a definition of CBI Y, N, and NA.)

☐

On-Site Activity

Environmental Release

Air

Water

Land

Manufacturing

Y

N

N

Importing

N

N

N

Processing

Y

N

N

Otherwise used

N

N

N

Product or residual storage

N

N

N

Disposal

N

N

N

Transport

N

N

N

☐ Mark (X) this box if you attach a continuation sheet.

10.06 Provide the following information for the listed substance and specify the level of precision for each item. (Refer to the instructions for further explanation and an example.)

CBI

☐

Quantity discharged to the air .....	<u>2.953</u>	kg/yr ± <u>5</u> %
Quantity discharged in wastewaters .....	<u>N/A</u>	kg/yr ± <u>N/A</u> %
Quantity managed as other waste in on-site treatment, storage, or disposal units .....	<u>N/A</u>	kg/yr ± <u>N/A</u> %
Quantity managed as other waste in off-site treatment, storage, or disposal units .....	<u>N/A</u>	kg/yr ± <u>N/A</u> %

Emission at .00124 lbs./hr

7hrs/shift  
3 shifts/day  
5 days/week  
50 weeks/yr  
5,250 hours/yr  
6.51 lbs/yr  
X .4536  
2.953

☐ Mark (X) this box if you attach a continuation sheet.

10.08 Describe the control technologies used to minimize release of the listed substance for each process stream containing the listed substance as identified in your process block or residual treatment block flow diagram(s). Photocopy this question and complete it separately for each process type.

CBI

☐ Process type ..... Automotive Polyurethane Seat Foam Manufacturing

<u>Stream ID Code</u>	<u>Control Technology</u>	<u>Percent Efficiency</u>
7.41	Control technologies are not used TDI is released to the atmosphere	

☐ Mark (X) this box if you attach a continuation sheet.

PART B RELEASE TO AIR

- 10.09 Point Source Emissions -- Identify each emission point source containing the listed substance in terms of a Stream ID Code as identified in your process block or residual treatment block flow diagram(s), and provide a description of each point source. Do not include raw material and product storage vents, or fugitive emission sources (e.g., equipment leaks). Photocopy this question and complete it separately for each process type.

CBI

☐

Process type ..... Automotive  
Polyurethane Foam Seat Manufacturing

Point Source ID Code	Description of Emission Point Source
7.30	Test Station Puromat I
7.40	Test Station Puromat II
7.29	Mix Head I
7.39	Mix Head II

☐ Mark (X) this box if you attach a continuation sheet.

☐ Mark (X) this box if you attach a continuation sheet.

10.10 Emission Characteristics -- Characterize the emissions for each Point Source ID Code identified in question 10.09 by completing the following table.

CBI

☐

Point Source ID Code	Physical State <sup>1</sup>	Average Emissions (kg/day)	Frequency <sup>2</sup> (days/yr)	Duration <sup>3</sup> (min/day)	Average Emission Factor <sup>4</sup>	Maximum Emission Rate (kg/min)	Maximum Emission Rate Frequency (events/yr)	Maximum Emission Rate Duration (min/event)
7.24	V	.012	240	1,260	.00124	.00124	cont.	cont.
7.34	V	.012	240	1,260	.00124	.00124	cont.	cont.
7.29	V	.012	240	1,260	.00124	.00124	cont.	cont.
7.39	V	.012	240	1,250	.00124	.00124	cont.	cont.
_____	_____	_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____	_____	_____

<sup>1</sup>Use the following codes to designate physical state at the point of release:

G = Gas; V = Vapor; P = Particulate; A = Aerosol; O = Other (specify) \_\_\_\_\_

<sup>2</sup>Frequency of emission at any level of emission

<sup>3</sup>Duration of emission at any level of emission

<sup>4</sup>Average Emission Factor -- Provide estimated ( $\pm$  25 percent) emission factor (kg of emission per kg of production of listed substance)

CBI

[ ]

<sup>1</sup>Height of attached or adjacent building

<sup>3</sup>Use the following codes to designate vent type:

☐ Mark (X) this box if you attach a continuation sheet.

10.12 If the listed substance is emitted in particulate form, indicate the particle size distribution for each Point Source ID Code identified in question 10.09.  
Photocopy this question and complete it separately for each emission point source.

CBI

☐

Point source ID code ..... 7.41

Size Range (microns)

Mass Fraction (%  $\pm$  % precision)

< 1

N/A

$\geq 1$  to < 10

$\geq 10$  to < 30

$\geq 30$  to < 50

$\geq 50$  to < 100

$\geq 100$  to < 500

$\geq 500$

Total = 100%

☐ Mark (X) this box if you attach a continuation sheet.



PART C FUGITIVE EMISSIONS

10.13 Equipment Leaks -- Complete the following table by providing the number of equipment types listed which are exposed to the listed substance and which are in service according to the specified weight percent of the listed substance passing through the component. Do this for each process type identified in your process block or residual treatment block flow diagram(s). Do not include equipment types that are not exposed to the listed substance. If this is a batch or intermittently operated process, give an overall percentage of time per year that the process type is exposed to the listed substance. Photocopy this question and complete it separately for each process type.

CBI

☐ Process type ..... Automotive Polyurethane Seat Foam Manufacturing  
 Percentage of time per year that the listed substance is exposed to this process type ..... 100 %

Equipment Type	Number of Components in Service by Weight Percent of Listed Substance in Process Stream					
	Less than 5%	5-10%	11-25%	26-75%	76-99%	Greater than 99%
Pump seals <sup>1</sup>						
Packed	<u>2</u>	<u>N/A</u>	<u>N/A</u>	<u>2</u>	<u>N/A</u>	<u>N/A</u>
Mechanical	<u>4</u>	<u>N/A</u>	<u>N/A</u>	<u>4</u>	<u>N/A</u>	<u>8</u>
Double mechanical <sup>2</sup>	<u>N/A</u>	<u>N/A</u>	<u>N/A</u>	<u>N/A</u>	<u>N/A</u>	<u>N/A</u>
Compressor seals <sup>1</sup>	<u>N/A</u>	<u>N/A</u>	<u>N/A</u>	<u>N/A</u>	<u>N/A</u>	<u>N/A</u>
Flanges	<u>6</u>	<u>4</u>	<u>2</u>	<u>2</u>	<u>2</u>	<u>14</u>
Valves						
Gas <sup>3</sup>	<u>N/A</u>	<u>N/A</u>	<u>N/A</u>	<u>N/A</u>	<u>N/A</u>	<u>N/A</u>
Liquid	<u>2</u>	<u>2</u>	<u>2</u>	<u>6</u>	<u>4</u>	<u>10</u>
Pressure relief devices <sup>4</sup> (Gas or vapor only)	<u>1</u>	<u>N/A</u>	<u>N/A</u>	<u>1</u>	<u>N/A</u>	<u>4</u>
Sample connections						
Gas	<u>N/A</u>	<u>N/A</u>	<u>N/A</u>	<u>N/A</u>	<u>N/A</u>	<u>N/A</u>
Liquid	<u>N/A</u>	<u>N/A</u>	<u>2</u>	<u>N/A</u>	<u>N/A</u>	<u>2</u>
Open-ended lines <sup>5</sup> (e.g., purge, vent)						
Gas	<u>N/A</u>	<u>N/A</u>	<u>N/A</u>	<u>N/A</u>	<u>N/A</u>	<u>N/A</u>
Liquid	<u>N/A</u>	<u>N/A</u>	<u>N/A</u>	<u>N/A</u>	<u>N/A</u>	<u>N/A</u>

<sup>1</sup>List the number of pump and compressor seals, rather than the number of pumps or compressors

10.13 continued on next page

☐ Mark (X) this box if you attach a continuation sheet.

10.13 (continued)

<sup>2</sup>If double mechanical seals are operated with the barrier (B) fluid at a pressure greater than the pump stuffing box pressure and/or equipped with a sensor (S) that will detect failure of the seal system, the barrier fluid system, or both, indicate with a "B" and/or an "S", respectively

<sup>3</sup>Conditions existing in the valve during normal operation

<sup>4</sup>Report all pressure relief devices in service, including those equipped with control devices

<sup>5</sup>Lines closed during normal operation that would be used during maintenance operations

10.14 Pressure Relief Devices with Controls -- Complete the following table for those pressure relief devices identified in 10.13 to indicate which pressure relief devices in service are controlled. If a pressure relief device is not controlled, enter "None" under column c.

CBI

☐

a. Number of Pressure Relief Devices	b. Percent Chemical in Vessel <sup>1</sup>	c. Control Device	d. Estimated Control Efficiency <sup>2</sup>
Bulk Tank	98	Rupture Disc (2")	100
Day Tank	2	5-bar	100

<sup>1</sup>Refer to the table in question 10.13 and record the percent range given under the heading entitled "Number of Components in Service by Weight Percent of Listed Substance" (e.g., <5%, 5-10%, 11-25%, etc.)

<sup>2</sup>The EPA assigns a control efficiency of 100 percent for equipment leaks controlled with rupture discs under normal operating conditions. The EPA assigns a control efficiency of 98 percent for emissions routed to a flare under normal operating conditions

☐ Mark (X) this box if you attach a continuation sheet.

10.15 Equipment Leak Detection -- If a formal leak detection and repair program is in place, complete the following table regarding those leak detection and repair procedures. Photocopy this question and complete it separately for each process type.

CBI

☐ Process type ..... Automotive Polyurethane  
Foam Manufacturing

Equipment Type	Leak Detection	Detection Device <sup>1</sup>	Frequency of Leak Detection (per year)	Repairs Initiated (days after detection)	Repairs Completed (days after initiated)
	Concentration (ppm or mg/m <sup>3</sup> ) Measured at 36 Inches from Source				
Pump seals					
Packed	1 PPM	FPM	Daily	1	1
Mechanical	1 PPM	FPM	Daily	1	1
Double mechanical	N/A	N/A	N/A	-	-
Compressor seals	N/A	N/A	N/A	-	-
Flanges	1 PPM	FPM	Daily	1	1
Valves					
Gas	N/A	N/A	N/A	-	-
Liquid	1 PPM	FPM	Daily	1	1
Pressure relief devices (gas or vapor only)	1 PPM	FPM	Daily	1	1
Sample connections					
Gas	N/A	N/A	N/A	-	-
Liquid	1 PPM	FPM	Daily	1	1
Open-ended lines					
Gas	N/A	N/A	N/A	-	-
Liquid	1 PPM	FPM	Daily	1	1

<sup>1</sup>Use the following codes to designate detection device:

POVA = Portable organic vapor analyzer

FPM = Fixed point monitoring

0 = Other (specify) \_\_\_\_\_

☐ Mark (X) this box if you attach a continuation sheet.

☐ Mark (X) this box if you attach a continuation sheet.

- 10.16 Raw Material, Intermediate and Product Storage Emissions -- Complete the following table by providing the information on each liquid raw material, intermediate, and product storage vessel containing the listed substance as identified in your process block or residual treatment block flow diagram(s).

CBI



Vessel Type <sup>1</sup>	Floating Roof Seals <sup>2</sup>	Composition of Stored Materials <sup>3</sup>	Throughput (liters per year)	Vessel Filling Rate (gpm)	Vessel Filling Duration (min)	Vessel Inner Diameter (m)	Vessel Height (m)	Operating Vessel Volume (l)	Vessel Emission Controls <sup>4</sup>	Design Flow Rate <sup>5</sup>	Vent Diameter (cm)	Control Efficiency (%)	Basis for Estimate <sup>6</sup>
P	N/A	100		54	120	3.2	4.6	41.369	to at- mosphere	N/A	5.1	95	c
P	N/A	100		20	5	.9	1.2	500	to at- mosphere	N/A	5.1	95	c

<sup>1</sup>Use the following codes to designate vessel type:

F = Fixed roof  
 CIF = Contact internal floating roof  
 NCIF = Noncontact internal floating roof  
 EFR = External floating roof  
 P = Pressure vessel (indicate pressure rating)  
 H = Horizontal  
 U = Underground

<sup>2</sup>Use the following codes to designate floating roof seals:

MS1 = Mechanical shoe, primary  
 MS2 = Shoe-mounted secondary  
 MS2R = Rim-mounted, secondary  
 LM1 = Liquid-mounted resilient filled seal, primary  
 LM2 = Rim-mounted shield  
 LMW = Weather shield  
 VM1 = Vapor mounted resilient filled seal, primary  
 VM2 = Rim-mounted secondary  
 VMW = Weather shield

<sup>3</sup>Indicate weight percent of the listed substance. Include the total volatile organic content in parenthesis

<sup>4</sup>Other than floating roofs

<sup>5</sup>Gas/vapor flow rate the emission control device was designed to handle (specify flow rate units)

<sup>6</sup>Use the following codes to designate basis for estimate of control efficiency:

C = Calculations  
 S = Sampling

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PART E NON-ROUTINE RELEASES

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10.23 Indicate the date and time when the release occurred and when the release ceased or was stopped. If there were more than six releases, attach a continuation sheet and list all releases.

<u>Release</u>	<u>Date Started</u>	<u>Time (am/pm)</u>	<u>Date Stopped</u>	<u>Time (am/pm)</u>
<u>1</u>	<u>None</u>	<u>          </u>	<u>          </u>	<u>          </u>
<u>2</u>	<u>          </u>	<u>          </u>	<u>          </u>	<u>          </u>
<u>3</u>	<u>          </u>	<u>          </u>	<u>          </u>	<u>          </u>
<u>4</u>	<u>          </u>	<u>          </u>	<u>          </u>	<u>          </u>
<u>5</u>	<u>          </u>	<u>          </u>	<u>          </u>	<u>          </u>
<u>6</u>	<u>          </u>	<u>          </u>	<u>          </u>	<u>          </u>

---

Response note required for TDI

10.24 Specify the weather conditions at the time of each release.

<u>Release</u>	<u>Wind Speed (km/hr)</u>	<u>Wind Direction</u>	<u>Humidity (%)</u>	<u>Temperature (°C)</u>	<u>Precipitation (Y/N)</u>
<u>1</u>	<u>          </u>	<u>          </u>	<u>          </u>	<u>          </u>	<u>          </u>
<u>2</u>	<u>          </u>	<u>          </u>	<u>          </u>	<u>          </u>	<u>          </u>
<u>3</u>	<u>          </u>	<u>          </u>	<u>          </u>	<u>          </u>	<u>          </u>
<u>4</u>	<u>          </u>	<u>          </u>	<u>          </u>	<u>          </u>	<u>          </u>
<u>5</u>	<u>          </u>	<u>          </u>	<u>          </u>	<u>          </u>	<u>          </u>
<u>6</u>	<u>          </u>	<u>          </u>	<u>          </u>	<u>          </u>	<u>          </u>

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☐ Mark (X) this box if you attach a continuation sheet.

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Listing of Continuation Sheets

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